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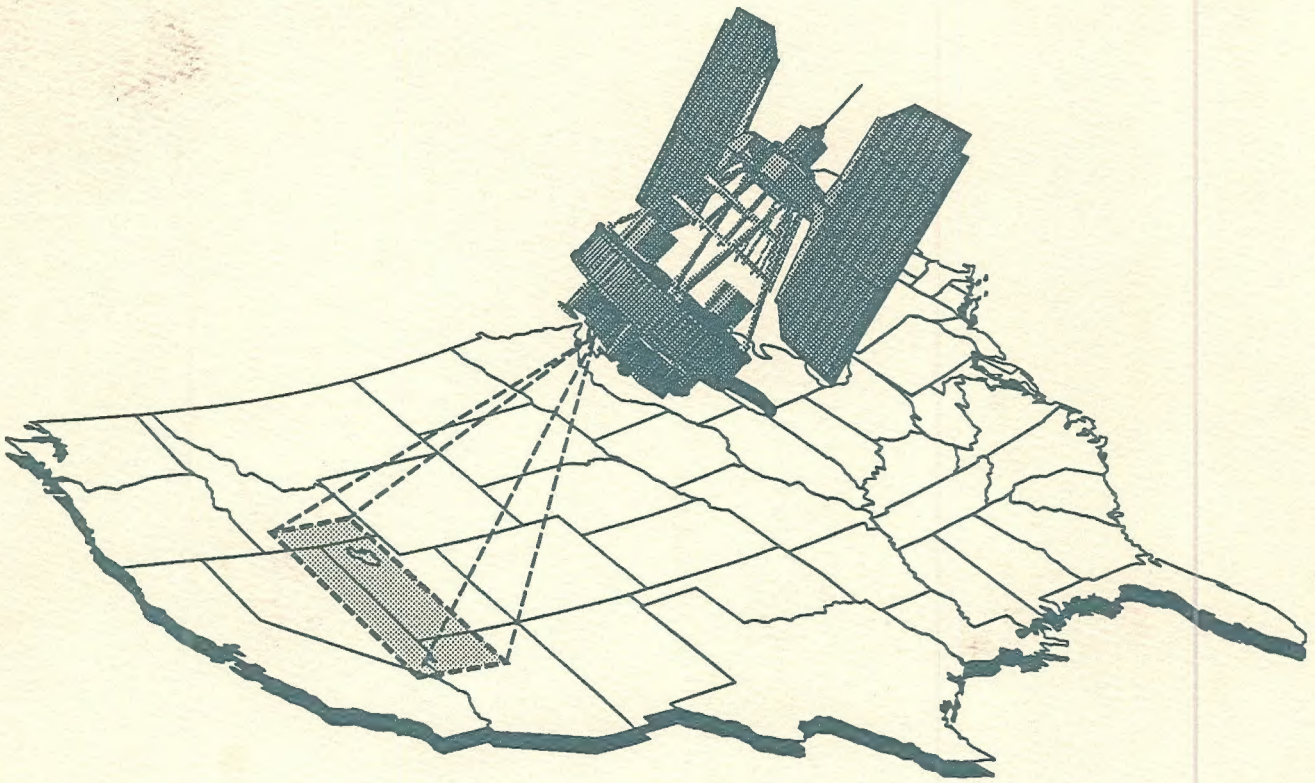
TECHNICAL REPORT



Volume I

OBJECTIVES, PROCEDURES, AND RESULTS

Prepared by:

Dames & Moore

June 1992

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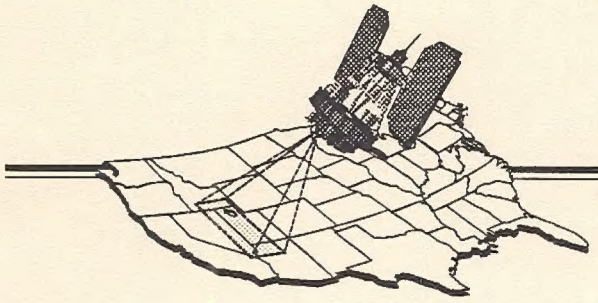


CHAPTER 1

OBJECTIVES, PROCEDURES AND RESULTS

CHAPTER 1
OBJECTIVES, PROCEDURES, AND RESULTS

INTRODUCTION

The Idaho Power Company (IPCo) proposes to construct the Southwest Intertie Project (SWIP), a 500kV alternating current transmission line, from the Midpoint Substation in southern Idaho to a new substation in the Ely, Nevada area and then connecting to a new substation northeast of Las Vegas, Nevada. A crosstie 500kV transmission line is also proposed as part of the SWIP to be constructed from the Intermountain Generating Station near Delta, Utah to the new substation in the Ely, Nevada area. The crosstie line would be constructed and operated by the Los Angeles Department of Water and Power (LADWP).

This document is Volume I of the technical reports that support the Draft Environmental Impact Statement/Draft Plan Amendment (DEIS/DPA) for the Southwest Intertie Project. The EIS will be completed for the Bureau of Land Management (BLM) by Dames & Moore, a third-party contractor, to determine the routing alternatives for the proposed transmission line and the environmentally preferred alternative. The USDA Forest Service, the USDI National Park Service, the USDI Bureau of Reclamation, and the USDI Bureau of Indian Affairs are federal cooperating agencies. Following the Record of Decision, IPCo would complete the centerline surveys, construction documentation, and revise and update the Construction, Operation, and Maintenance (COM) Plan to reflect the engineering design and environmental compliance details.

All tables referenced in this document are located at the end of this chapter. Figures are presented on the pages following narrative citations.

Study Objectives

The proposed development of SWIP would allow IPCo and other utilities to contribute resources to regional electricity needs by providing economic electricity to consumers, and by increasing the overall capacity and reliability of the interconnected electric system between the Northwest and Southwest.

Some of the major reasons included in the purpose and need for SWIP are listed below. For detailed discussion of these items, refer to Chapter 1 of the DEIS/DPA.

- allow for power exchanges from the Northwest to the Southwest
- increase the reliability and capacity of the transmission system in the western U.S.

- increase competition and economic efficiency by increasing transmission access
- allow for mutually beneficial transactions to northwest and southwest utilities at an open marketplace
- increase wheeling capacity for other utilities
- furnish access to the economy energy market
- provide access to long-term purchases and sales
- diversify fuel resources used to generate electrical power

The crosstie route would contribute toward satisfying regional reliability and enhance the electrical grid in the western U.S. by:

- creating a bidirectional transfer path between the Pacific Northwest and the intermountain regions of the West
- creating a bidirectional transfer path between the intermountain region and southern Nevada
- contribute to the reliability of the Utah-Nevada Transmission Project (UNTP) Phase I (Delta to Marketplace line) and the SWIP line from Midpoint Substation to Dry Lake
- allow for the bidirectional transfer of bulk power bought, sold, and/or exchanged in the marketplace between utilities in Utah, southern Nevada, and Idaho

The technical reports provide detailed documentation of the environmental studies conducted in support of the Southwest Intertie Project DEIS/DPA. The technical reports consist of nine volumes, including Data Tables that detail resource impacts by milepost along the assumed centerline of each of the study corridors (refer to the Master Table of Contents in the front of this volume).

Overview

Regional environmental studies for an area of approximately 60,000 square miles were conducted in 1988 by Dames & Moore. The purpose of these studies was to identify potential reasonable and feasible transmission line routing alternative. Over 3,000 miles of study corridors were identified in the Phase I Regional Studies. From this 3,000 miles, approximately 2,000 miles of study corridors were carried forward for detailed study in the DEIS/DPA.

The regional studies included classification of satellite imagery to determine land cover and vegetation types, including forests, desert scrub, grasslands, riparian areas and wetlands,

waterbodies, barren areas, urban areas, and agricultural lands. Other secondary data were gathered from federal, state, and local agencies for five major resource categories: land use, visual, biological, earth, and cultural resources. Resource data were mapped on 1:500,000 scale on mylar overlay base maps. These overlays were then digitized into a Geographic Information System (GIS).

The original study corridors included all reasonable and potentially feasible transmission line routing alternatives between the Twin Falls, Idaho area south to the Ely, Nevada area, then east to the Delta, Utah area. Public lands administered by the Bureau of Land Management (BLM) comprise the majority of the study corridors. For a detailed map of land jurisdiction refer to the Map Volume that accompanies the DEIS/DPA. Other jurisdictions include USDA Forest Service, U.S. Department of Defense (military), USDI Fish and Wildlife Service (FWS), USDI National Park Service (NPS), Indian reservations, state, and private lands.

A network of high voltage electric transmission lines ranging in size from 115kV to 500kV occur within the study corridors. Figure OBJ-1 generally illustrates the major existing transmission lines in the West. The following are general descriptions of these lines:

- Two 345kV Sierra Pacific Power Company (SPP) transmission lines run northeast from the Reno area to the Valmy Substation (Valmy Generating Station) in north-central Nevada. An SPP and IPCo 345kV line runs northeast from Valmy, and then north into Idaho to the Midpoint Substation north of Twin Falls. Other lower voltage lines run parallel to portions of the 345kV lines and connect with SPP and IPCo systems, primarily in northern Nevada.

- A 230kV SPP line traverses central Nevada between the Reno areas and the Gondor Substation in eastern Nevada. A Utah Power & Light (UP&L) 230kV line then continues east parallel to the Intermountain Power Agency (IPA) 230kV line into the Pavant and Sigurd Substations in central Utah. The IPA 230kV line connects Gondor with the Intermountain Generation Station.

- A series of transmission lines operated by Pacific Power and Light (PP&L) and IPCo run between south-central Oregon and the southeastern corner of Idaho. These include the PP&L 500kV Malin (Oregon) to Midpoint (Idaho) line, IPCo 230kV and 345kV lines running east and west of Midpoint through the Snake River Valley, and UP&L 345kV lines between the Borah Substation and the Jim Bridger power plant in Wyoming. A network of other transmission lines of lower capacities (i.e., less than 230kV) interconnect hydroelectric facilities along the Snake River in south-central Idaho.

- At the eastern edge of the study corridors, a group of 345kV lines operated by UP&L run from Idaho south through the Salt Lake City area, then south to the Mona and Sigurd substations in central Utah. From Mona and Sigurd, 230kV lines extend southwest within Utah and south into Arizona. From the Intermountain Generating Station in west-central Utah, the IPA 500kV DC line extends southwest into Nevada.

Major existing and proposed natural gas and oil pipelines are identified and mapped where source data is available. These include Northwest Pipeline Company in Idaho and Utah, Mountain Fuel Company pipelines in Utah, Chevron pipeline in Idaho, and Southwest Gas pipelines in Nevada.

The visual character of this region is broadly defined by three physiographic provinces, the Basin and Range in Nevada and Utah, the West Desert in Utah, and Snake River section of the Columbia Plateau in Idaho. These are all relatively open landscapes, with uninterrupted views and minimal vegetation (e.g., sage scrub, desert scrub). The northern portion of the study corridors in the Columbia Plateau is a broad and open landscape with deep shear-walled canyons cut by the Snake River and its tributaries. To the south, the Basin and Range landscape is characterized by north to south trending mountain ranges and large closed drainage basins, referred to as playas. The eastern portion of the study corridors in Utah is dominated by the rocky, sparsely vegetated Great Salt Lake Desert and the West Desert.

The Great Basin National Park in Nevada, established in 1987, is the only national park located within the study corridors. Though the park is not directly affected, views from the park were identified during scoping as being sensitive to visual intrusions outside of the park boundaries, and were considered in the visual resource studies for transmission line routing alternatives.

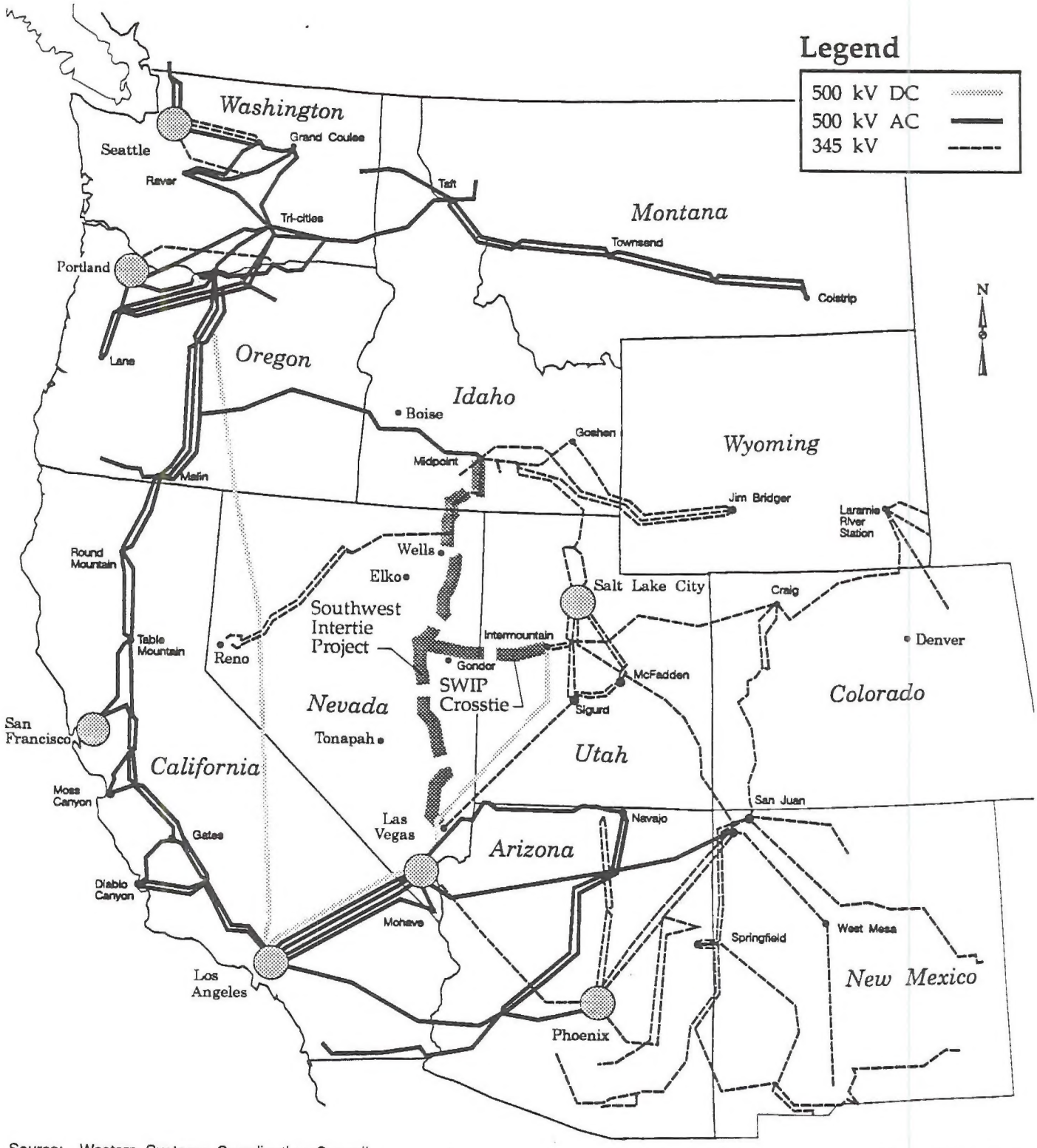
Other federal land designations include wilderness areas and wilderness study areas (WSAs), Natural Areas, Scenic Areas, Areas of Critical Concern, National Historic Trails, Special Management Recreation Areas, and various developed use areas (e.g., campgrounds, day-use areas, etc.).

Portions of several state highways and byways within the study corridors are designated as scenic routes by state or federal agencies. Some of the travel routes identified as visually sensitive include a portion of U.S. Highway 93 in Nevada, a portion of U.S Highway 30 in Idaho, the Success Loop, the California Immigrant Trail Backcountry Byway, Kane Springs Backcountry Byway, and other similar routes.

Major biological issues include potential project impacts on the following resources:

- raptor habitat and nests (e.g., Bald eagles, Ferruginous hawks)
- crucial habitat and wintering range for pronghorn antelope, elk, and bighorn sheep, wild horses and burros
- sage grouse strutting grounds and habitat
- desert tortoise habitat
- rare plant species
- major wetlands areas and riparian woodlands

Vegetation in the study corridors occurs in two major physiographic units: basins (intermountain valleys) and mountains (montane zonal). Within each unit, there are several vegetation types. Land cover was mapped using computer-classified satellite imagery (refer to the GIS section of this volume). Vegetation categories of this landcover data include: natural bare soil (sparse desert forbes and grasses), playas, sage scrub/grasses, grassland, mountain shrubs/grasses, mountain conifer/broadleaf (piñon-juniper), and agriculture.



Source: Western Systems Coordinating Council Map of Principle Transmission Lines, Jan. 1, 1992

Note: Not to scale

Regional Transmission Network

Dames & Moore

Figure OBJ-1

The study corridors contains large areas where the extent, type and quality of cultural resources are as yet unknown. Known prehistoric resources include numerous lithic scatters, antelope traps, and other similar finds. The Western Shoshone tribe claims much of the area crossed by study corridors in Nevada. There are several areas that are considered sacred containing ceremonial sites or natural features of particular importance.

Scattered throughout much of the study corridors are indications of the historic presence of man. Abandoned towns, mines, ranch houses, and other structures are still present in the study corridors. Historic management of the private and public lands is evidenced by fences and where the natural vegetation was cleared to promote the growth of forbes and grasses for livestock grazing.

Study Personnel

The environmental investigations for the Southwest Intertie Project were conducted by an interdisciplinary team under the direction of Dames & Moore's Environmental Services Group in Boise, Idaho. With the exception of the electrical effects studies, all resource studies were conducted by Dames & Moore.

The personnel and organizations responsible for the various studies are listed in Table OBJ-1 at the end of this document.

DESCRIPTION OF PROPOSED ACTION

The proposed action for the SWIP is to construct a 500kV AC transmission line from the Midpoint Substation in southern Idaho to a new substation in the Ely, Nevada area and then connecting to a new substation northeast of Las Vegas, Nevada. This DEIS/DPA evaluates the impacts of several alternative routes (Routes A through G), and compares them (refer to the DEIS/DPA for additional information).

A crosstie 500kV transmission line is also proposed as part of the SWIP to be constructed from the Intermountain Generating Station near Delta, Utah, to the new substation in the Ely, Nevada area. The crosstie line would be constructed and operated by the LADWP (refer to the DEIS/DPA for additional information). The DEIS/DPA also evaluates the impacts of several alternative routes for the crosstie (230kV Corridor, Southern, Cutoff, and Direct Routes), and compares them (refer to the DEIS/DPA for additional information).

The design, construction, operation, and maintenance of the Southwest Intertie Project 500kV transmission line would meet or exceed the requirements of the National Electrical Safety Code (NESC), U.S. Department of Labor Occupational Safety and Health Standards, and IPCo's requirements for safety and protection of landowners and their property. Table OBJ-2 contains a list of the basic design characteristics of the proposed transmission facilities.

Transmission Line Design

Towers - The proposed 500kV transmission line would be an AC line interconnecting other regional AC facilities. Proposed tower structures for this transmission line are steel-lattice, self-supporting or guyed steel-lattice towers fabricated from unpainted galvanized steel (Figure OBJ-2 and OBJ-3). Self-supporting, tubular-steel structures would be used in agricultural lands to mitigate potential conflicts with cultivation (Figure OBJ-2 and OBJ-3). These towers would be fabricated from corten steel (dark, rust-like finish). Typical tower-to-tower spans would average 1,200 to 1,500 feet and tower heights would range between 90 and 160 feet, but would average 120 to 130 feet.

Dead-end towers of self-supporting, steel-lattice design would be required periodically to add longitudinal strength along the line (Figure OBJ-2 and OBJ-3). Dead-end towers are also used at many turn (angle) locations along the line, at heavily loaded tower locations, and at specific utility crossings (e.g., other transmission lines) for added safety. A three-pole, self-supporting, tubular-steel tower design is an alternative tower type for use as dead-ends (Figure OBJ-2 and OBJ-3). The remaining towers would be tangent suspension or angle suspension towers. Angle suspension towers are of the same basic configuration as tangent suspension towers, the difference being in the insulator systems and tower weights.

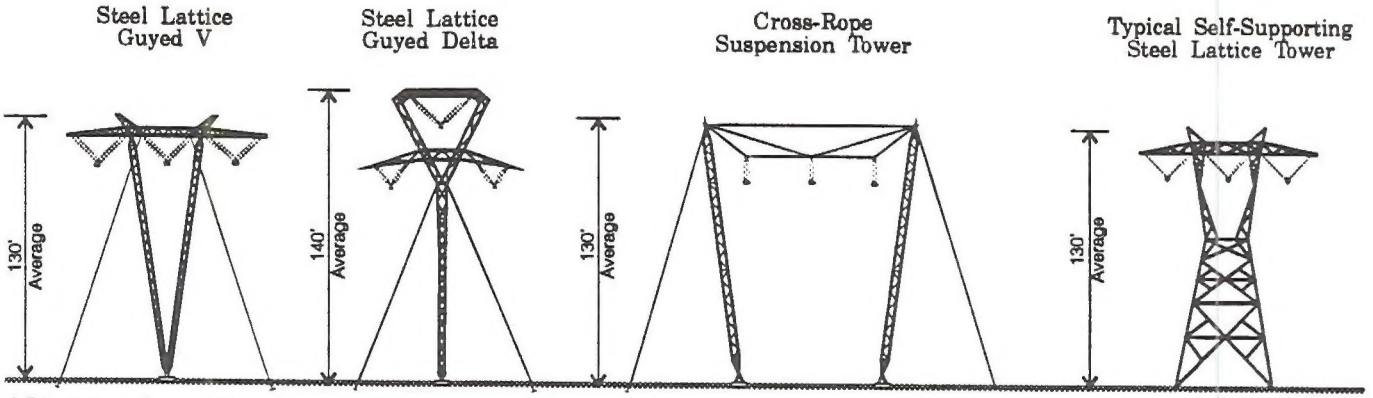
Towers along the majority of the route between Midpoint to Dry Lake would be steel-lattice, guyed structures (Figure OBJ-2). A typical guyed tower would have four guy cables. Guy cables would be approximately one inch in diameter. Self-supporting, steel-lattice towers or three-pole, self-supporting, tubular-steel towers would be used for dead-end and angles towers.

Self-supporting, steel-lattice towers are proposed for all structures in the Ely to Delta segment (Figure OBJ-3). The reliability policies of LADWP, a SWIP participant for this segment of the line, precludes use of guyed, steel-lattice structures as proposed for the remainder of the SWIP (Midpoint to Dry Lake). In order to mitigate visual impacts along the crosstie, some of the structures may be an H-frame type.

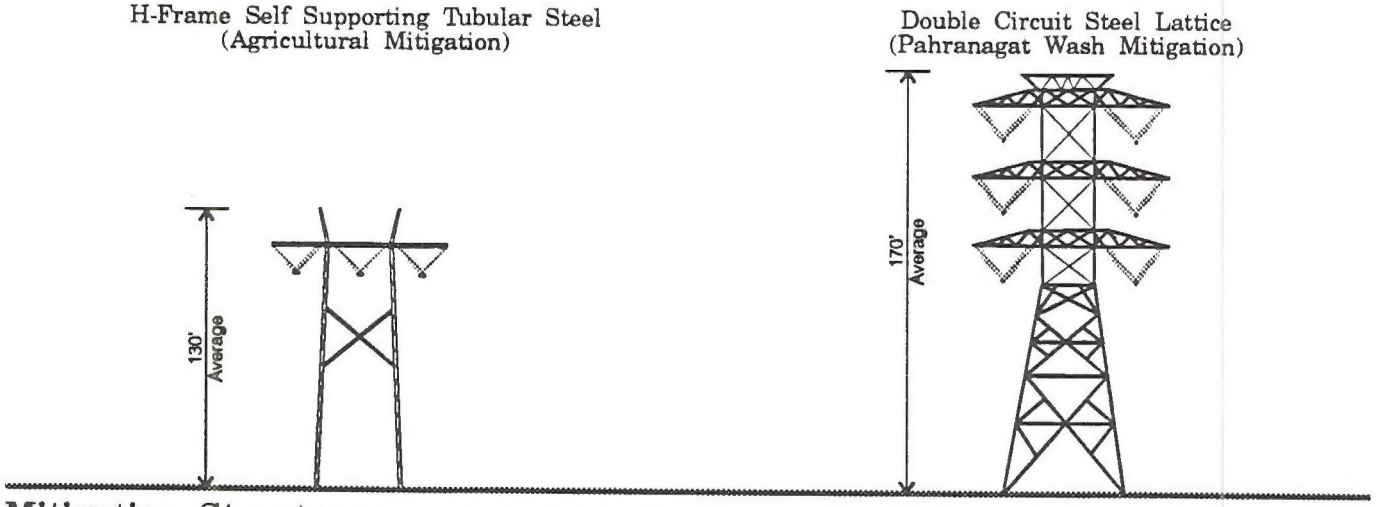
Tubular-steel, H-frame towers are proposed as mitigation in agricultural lands to minimize impacts to cultivation practices. A guyed tower could interfere with the operation of machinery in the vicinity of the tower as well as with gravity flow and sprinkler irrigation systems. In addition, H-frame towers may be recommended as mitigation to reduce visual contrast where the SWIP would parallel other similar H-frame transmission lines towers (Figure OBJ-2 and OBJ-3).

Self-supporting towers would be used in areas of steep terrain where side slopes are greater than the guy slope. This decision was made because guy cables could extend far beyond the edge of the right-of-way. Self-supporting structures would be used to eliminate excessive right-of-way requirements as well as potential construction and operational problems. Reliability of the system would also be strengthened.

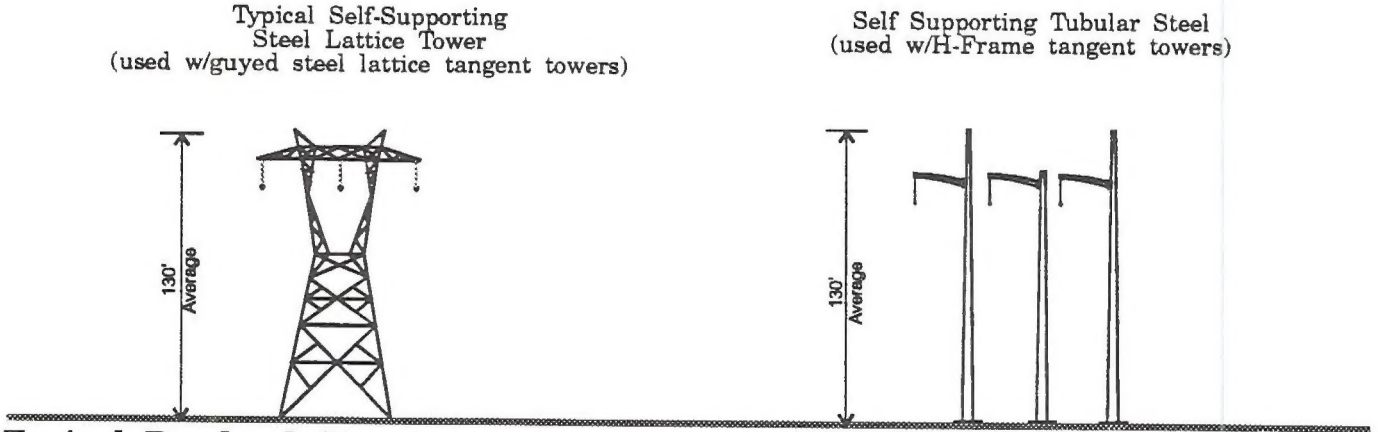
Foundations - Self-supporting, steel-lattice towers require four footings, while the steel-lattice, guyed towers require one footing for the tower base and four anchor rods for guy



Alternative Tangent Structures



Mitigation Structures

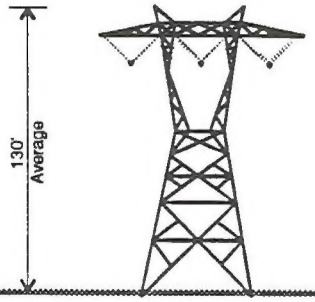


Typical Deadend Structures

Source: Dames & Moore/IPCo
Note: Also refer to Table 2-1
Not to scale

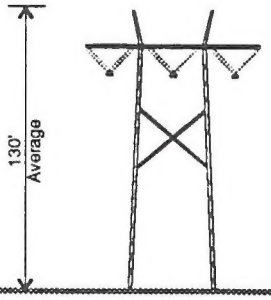
Midpoint to Dry Lake Structures

Typical Self Supporting
Steel Lattice Structure
Tangent Structure



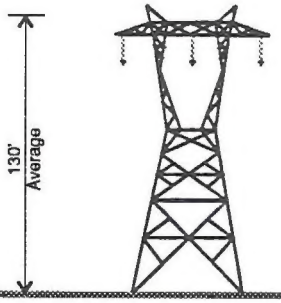
Tangent Structures

H-Frame Self Supporting Tubular Steel
(Visual Mitigation)



Mitigation Structure

Typical Self-Supporting
Steel Lattice Tower
Deadend Structure



Deadend Structure

Source: Dames & Moore/IPCo
Note: Also refer to Table 2-1
Not to scale

Ely to Delta Structures

Dames & Moore

Figure OBJ-3

cables. The area disturbed by either of these tower foundations is a small portion of the total area of the tower site.

Some foundations and guy anchors would consist of pre-cast concrete footings approximately 4 feet in diameter and 6 feet deep. Due to site specific characteristics, some foundations and guy anchors (e.g., rock anchors) would require cast-in-place footings. Steel H-frame structures would have cast-in-place concrete footings 6 to 10 feet in diameter and 20 to 30 feet deep. Self-supporting lattice towers would have cast-in-place concrete footings 3 to 4 feet in diameter and 12 to 24 feet deep.

Conductors - The conductor would consist of three phases, with a two or three-conductor bundle for each phase. The configuration of the conductor bundle would be determined during the engineering design of the project. Spacing between subconductors in a bundle would be approximately 18 inches.

Aluminum-trapezoidal or aluminum-stranded conductors with a steel stranded reinforced core (ACSR) would be used. The aluminum carries the majority of the electrical current and the steel provides tensile strength to support the aluminum strands.

Minimum conductor height above the ground is 31 feet, based on National Electric Safety Code (NESC) and IPCo's own standards. Greater clearances may be required in areas accessible to vehicles. Minimum conductor clearance would dictate the exact height of each tower based on topography and safety clearance requirements. Minimum conductor clearances in some instances may be greater based on specific NESC requirements.

Insulators and Associated Hardware - Three assemblies of insulators in the form of a "V" or an "I" would be used to position and support each of the conductor bundles relative to the tower while maintaining electrical design clearances between the conductors and the tower (refer to Figures OBJ-2 and OBJ-3). Each "I" string would consist of 26 to 30 insulators, while each leg of "V" strings would consist of 26 to 30 insulators. Insulator assemblies would be between 14 and 20 feet long.

Overhead Ground Wires (Shield Wires) - To protect conductors from direct lightning strikes, two overhead ground wires, 3/8 to 1/2 inch in diameter, would be installed on the top of the towers. Electrical current from lightning strikes would be transferred through the groundwires and structures into the ground. Ground wire having fiber optic capability may be installed rather than traditional groundwire in order to facilitate project communication needs or potentially to serve the needs of commercial communication companies.

Terminals and Communications

The transmission line originates at the Midpoint Substation in Idaho. New terminals, or substations, are proposed in the vicinity of Ely, Nevada, and northeast of Las Vegas, Nevada. A third terminal may also be needed north of Wells, Nevada for an interconnection with Sierra Pacific Power (SPP). In the past, SPP has expressed an interest in a connection in this location. A substation is also proposed on the crosstie route in the vicinity of Delta, Utah.

Substations provide the point interconnection with other transmission lines of the same or different voltages. These terminals would also operate as switching stations where power flows can be controlled. Control of power flows and other operations at substations are generally directed remotely through a microwave communications system. This section describes the types of facilities that are proposed as part of the SWIP.

Substation and Series Compensation Stations

Three new substations would be required in Nevada, one north of Wells, one in the vicinity of Ely, and one northeast of Las Vegas. One new substation would also be required on the crosstie route in the vicinity of Delta, Utah. The land requirements for each substation site would be approximately 80 acres depending on layout of associated electrical equipment, and potential allowance for setbacks from or relocation of existing electric and gas transmission lines.

The electrical towers and rack structures would be similar in appearance and height to those at the existing substation site at Midpoint Substation in Idaho. The maximum height of structures in a substation would be approximately 125 feet. The electrical equipment yards would be open and would include transformers, circuit breakers, disconnect switches, lightning/surge arresters, reactors, capacitors, bus (conductor) structures, and microwave towers (refer to Table OBJ-3). The equipment yard control house (a structure approximately 50 feet wide by 100 feet long by 10 feet high and constructed of painted concrete block) and the internal access roads would be similar to what is now existing on the Midpoint site. The proposed facilities would be enclosed by chain-link fencing for security.

A series compensation station would be located northeast of Wells, Nevada, at a point approximately halfway between Midpoint Substation in Idaho and a proposed substation in the vicinity of Ely, Nevada. This facility would require 15 to 20 acres and consists of electrical towers, high-voltage series capacitor banks, switching equipment, bus conductor, and microwave facility . Series compensation is used in transmission system design to economically increase the capacity of a transmission line. Series compensation provides voltage support to the system that varies with line loadings. As the line loadings increase, so does the voltage support from the series compensation. This action improves the electrical characteristics of the transmission line thereby increasing the line capacity. In addition, a series compensation station may also be required halfway between the substation site near Ely, Nevada, and the proposed substation at Dry Lake. The series compensation station near Wells may be expanded to accommodate switching equipment (substation) if Sierra Pacific Power (SPP) constructs a transmission interconnection from north central or northwest Nevada.

Site preparation work for substation or series compensation station facilities would involve the following.

- Cut-and-fill grading, placement, and compaction of structural fill would serve as a foundation for substation facilities. Sites would be graded to maintain current drainage patterns.

- A new construction entrance and construction fencing would be provided.

- Approximately 20-foot-wide gravel base road would be required. The yards would be covered with aggregate. A gravel parking area, approximately 100 feet by 100 feet, would be required. Where possible, native vegetation would be re-established.

Communications Facilities

The need for reliable, secure communication circuits for protective and control relaying for the SWIP line would require the construction of a microwave communications system between Hansen Butte, Idaho, and the proposed Dry Lake substation site in Nevada. In addition to protective relaying circuits, the microwave system would be used for voice communications, telemetering, and supervisory control and data acquisition (SCADA).

The communication system for the portion of the transmission line between Ely, Nevada, and Delta, Utah, would use existing microwave facilities, currently used to control the existing 230kV system. The existing facilities would require some modifications (e.g., new equipment) at each site. However, these modifications are not expected to require any ground disturbing activities.

Ideally, sites chosen for microwave installations are proposed to be 35 to 40 miles apart, have line-of-sight between adjacent sites, commercial power, and be accessible by road. Where feasible, developed communication sites would be used. In areas where no existing facilities are present and there is no existing access to a viable site, solar powered facilities would be placed and maintained by helicopter. These communications facilities would be unmanned and would operate automatically. The building would be locked and secured, with entry restricted to appropriate utility personnel.

The proposed microwave facilities would require a small site, approximately one-quarter acre in size. Each site would require clearing, and minor grading. Structures on each site would include a 10 feet by 12 feet building made of wood or concrete panels that would be painted an earth tone color to reduce visual contrast. In addition a triangular steel lattice tower ranging between 20 feet and 100 feet in height would be required.

These facilities are unmanned and operate by automatically responding to incoming signals. Communication signals are relayed using parabolic (bowl shaped) dishes mounted on the tower which capture signals from other microwave sites and relay them to other sites along the system. The signals are short wave length, high frequency radio beams that maintain good reliability under adverse conditions.

Where there are existing facilities, often only an additional parabolic dish would be needed. For undeveloped sites, the specific type of facility would be determined by the availability of access and proximity to a power supply. If the site is remote and no roads are present, a solar powered facility would be proposed. Construction of remote sites would be completed using a helicopter. Where access is near an existing road and/or power supply, a standard

facility would be constructed. Most sites would generally be accessible by gravel roads and could be patrolled periodically by IPCo representatives.

Maintenance of the communication facilities would consist of testing, repair, and replacement of electronic equipment located within the building at the communication site. Inspection and maintenance of the building, communication tower, and other physical equipment would occur periodically.

At the end of the proposed project life and if the facilities were no longer required for other existing or proposed projects, the microwave sites would be abandoned (also refer the discussion of site reclamation and abandonment in the DEIS/DPA). Subsequently, the equipment would be dismantled and removed from the sites. Refer to Appendix F of the DEIS/DPA for additional information and the Map Volume for the mapped locations of the alternative communication sites.

It is possible that a fiber optic groundwire may be installed (on the towers in place of the shield wire) to facilitate communication needs for the transmission line, or capacity may be sold to commercial communication companies. If fiber access is allowed to commercial companies, they would be responsible for obtaining the necessary permits and right-of-way needed for regeneration stations at intervals along the transmission line (also refer to Right-of-Way Acquisition).

Right-of-Way Acquisition

In general, new land rights would be required for the transmission line facilities, such as the transmission line corridor, substation/switching stations, series compensation stations, microwave facilities, and access roads (e.g., right-of-way grant, easements, and fee simple). IPCo would request a right-of-way grant from the BLM and a special use permit from the FS for transmission line facilities located on federal lands. Additional right-of-way may be required in isolated areas where the proposed transmission line turns sharply.

Rights-of-way for transmission line facilities on nonfederal lands would be obtained in perpetual easements. If necessary, private lands for substations would be purchased in fee simple. Every effort would be made to purchase all the land rights on private lands through reasonable negotiations with the present owners.

Land rights would be obtained in the name of IPCo. IPCo plans to construct the transmission segments from Midpoint Substation to the proposed substation at Dry Lake in southern Nevada. IPCo has entered into an agreement with LADWP to convey the portion of a right-of-way grant for the segment from the Ely area to Delta. This is referred to as the "Delta Grant" in the agreement. The agreement further states that IPCo would conduct the necessary environmental permitting for the Delta Grant and then assign it to LADWP for construction, operation, and maintenance.

If a route is selected that crosses the Moapa River Indian Reservation (Links 760 and 770), negotiations with the Tribal Council of the Moapa Band of the Paiute for a perpetual easement would be initiated.

If a fiber optic groundwire is installed and access is sold to a commercial company, they would be responsible for all permitting activities and obtaining right-of-way for the regeneration stations that would be needed at intervals along the transmission line right-of-way (also refer to Communication Facilities).

Right-of-Way Separation

Where the SWIP would parallel the proposed Utah-Nevada Transmission Project (UNTP) south of the Delamar Valley, the right-of-ways of the SWIP and UNTP would need sufficient separation to meet reliability and outage criteria of the Western System Coordinating Council (WSCC). Without adequate separation, the criteria considers the simultaneous outage of the SWIP and UNTP to be a credible event, or an event that has a significant likelihood of occurring. The simultaneous loss of the SWIP and UNTP under heavy transfer conditions could precipitate a major electrical system disturbance resulting in a cascading failure of the western power system. Building and operating the system in this manner would be inconsistent with the WSCC Reliability Criteria.

Therefore, the projects must (1) reduce capacity (which has the effect of rendering one project economically impractical), (2) provide measures to avert system breakup (considered technically and economically impractical), or (3) construct the projects so a simultaneous outage is not credible (use adequate circuit separation). While the latter course is preferable to the project participants, the specific amount of separation required to achieve this determination has not been defined in the criteria. However, based on the terrain and environmental considerations in the area of parallel right-of-way, it is believed that 2,000 feet would be adequate. Double circuit towers or a separation of less than 1000 feet would exist in isolated areas along the route due to terrain or land use conflicts. It is believed that by using a higher safety factor on the tower design in these physically constrained areas, the reliability would be sufficient to maintain the requested capacity rating. Also refer to Corridor Studies and Capacity and Reliability in the DEIS/DPA.

The SWIP and UNTP would converge near Robber's Roost Hills (Link 675), and would travel parallel for approximately 140 miles (Links 690, 700, and 720) into Coyote Spring Valley in southern Nevada, where the UNTP would continue south and the SWIP would cross through the southern end of the Arrow Canyon Range into the Dry Lake Valley. Separation of 2,000 feet is needed for this entire distance except where it is not physically possible to maintain this separation.

In the Pahranagat Wash area, the SWIP and UNTP lines may need to be closer for two miles or more. Because the Delamar Mountains and Evergreen Wilderness Study Areas (WSAs) are within about 1/2 mile of each other and other linear features are present (e.g., U.S. Highway 93 and the Lincoln County Coop 69kV line), the SWIP and UNTP lines would be constructed on double circuit towers, each with an open circuit. The SWIP line is proposed

to be on the west side and the UNTP on the east. The plan is for the two future White Pine Power Project (WPPP) lines to be placed on the open circuits of the SWIP and UNTP lines through this area. The proposed configuration of the planned lines through this area is shown schematically in the cross-sections included in the Map Volume that accompanies the DEIS/DPA. To help compensate for this lack of separation and to meet the WSCC criteria outlined above, the structures within this area would need to be engineered to a higher standard to better withstand potential physical disturbances (e.g., earthquakes, etc.).

If the Delamar and Evergreen WSAs are not designated as Wilderness by Congress by the time all of the lines are constructed, the involved utilities may pursue amending the right-of-way grants to allow all of the lines to be placed on separate circuits.

In the approximately 140 miles where the SWIP and UNTP lines can be separated by 2000 feet, the SWIP and UNTP lines would form the outside edges of the utility corridor that would include the two planned 500kV WPPP transmission lines. The cross-sections in the Map Volume that accompanies schematically show the relationship of the four planned 500kV transmission facilities.

In areas where the SWIP would parallel lower voltage overhead lines, a minimum separation of 200 feet, centerline to centerline, would be required. With this separation, if either the SWIP or the lower voltage line failed, neither would fall into the other.

Construction

Construction of a transmission line follows the sequence of surveying the centerline, access road identification and construction, right-of-way and tower sites clearing (including construction yards and batch plants), installing foundations, assembling and erecting the towers, clearing, pulling, tensioning, and splicing sites, installing ground wires and conductors, installing counterpoise/ground rods, cleanup, and site reclamation. Various phases of construction would occur at different locations throughout the construction process. This would require several contractors operating at the same time in different locations.

Surveying Activities - Before construction surveying begins, it would be necessary to obtain either a survey permit on federal and state lands, or rights-of-entry for private lands. Construction survey work would consist of locating the centerline, tower center hubs, right-of-way boundaries, and tower access roads. All of these activities would begin approximately two years prior to the start of construction. Cultural resources and threatened and endangered species intensive surveys can begin once the survey of the centerline and access roads is completed and clearly marked.

Access Road Construction - The construction, operation, and maintenance of the proposed transmission line would require that heavy vehicles access tower sites along the right-of-way. If new access roads are required, they would be constructed to support the weight of these vehicles. Where necessary, temporary roads would be typically 14 feet wide bladed roads, but would typically have no improved ditch drainage systems. Material and topsoil from the temporary roads would be bladed to one or both sides to facilitate rehabilitation. Following

construction, bladed material can be respread across the disturbed road section. Seeds and roots contained within the respread topsoil layer normally provide a natural source for new growth. Some permanent roads may be constructed where necessary for operation or maintenance, or where the landowner or land managing agency requires. Road standards would be addressed specifically in the Construction, Operation, and Maintenance Plan during the engineering phase of this project.

Culverts or other drainage structures would be installed as necessary across drainages, but the roads would usually follow the natural grade. This type of temporary road would facilitate rehabilitation. Existing paved and unpaved highways and roads would be used where possible.

Roads along existing utility corridors would be used where possible to minimize new access road construction. Where existing roads can be used, only spur roads to the tower sites may be required. New access roads and spur roads may be constructed into the right-of-way where existing roads do not exist.

The approximate area of ground disturbance associated with the typical construction activities was estimated for five types or levels of access. These access levels describe the assumptions for the degree of disturbance expected to occur with each access level (refer to Chapter 2 - Routing Alternatives Evaluation Process in the DEIS/DPA). Further, the access levels consider areas of as much as five acres per mile that may be temporarily disturbed (e.g., grasses crushed) by tower construction sites, pulling, tensioning, and splicing sites, batch plants, and marshalling yards.

Wherever possible, roads would be built at right angles to streams and washes. Culverts would be installed where necessary. In addition, road construction would include dust-control and erosion control measures in sensitive areas. All existing roads would be left in a condition equal to or better than their condition prior to the construction of the transmission line.

All roads would be constructed in accordance with IPCo requirements for transmission line access roads (also refer to description above). In the event of a conflict between IPCo requirements and the requirements of the BLM and FS, the states of Idaho, Utah, Nevada, or other agencies, the governing agency requirements would take precedence. Private landowners along the proposed roads would be consulted before construction begins.

Tower Site Clearing - At each tower site, leveled areas (pads) would be needed to facilitate the safe operation of equipment, such as construction cranes. The leveled area required for the location and safe operation of large cranes would be approximately 30 by 40 feet. At each tower site, a work area of approximately 200 feet square would be required for the location of tower footings, assembly of the tower, and the necessary crane maneuvers. The work area would be cleared of vegetation only to the extent necessary. After line construction, all pads not needed for normal transmission line maintenance would be graded to blend as near as possible with the natural contours, and revegetated where required.

Clearing Right-of-Way - The clearing of some natural vegetation may be required. However, selective clearing would be performed only when necessary to provide for surveying,

electrical safety clearances, line reliability, and maintenance. Topping or removal of mature vegetation, under or near the conductors, would be done to provide adequate electrical clearance as required by NESC standards (refer to Table OBJ-2).

Trees that could fall onto the lines or affect lines during wind-induced line swing would be removed. Normal clearing procedures are to top or remove large trees and not disturb smaller trees. Where there is a direct conflict between trees and clearance standards, the removal of trees would be jointly reviewed and agreed upon between IPCo (or LADWP for the crosstie) and the owners or managers of the property. Rights-of-way would not be chemically treated unless necessary to comply with requirements of a permitting agency.

Foundation Installation - Excavations for foundations would be made with power drilling equipment. Where the soil permits, a vehicle-mounted power auger or backhoe would be used. In rocky areas, the foundation holes may be excavated by drilling and blasting, or special rock anchors may be installed. Where required, conventional or plastic explosives would be used. Safeguards (e.g., blasting mats) would be employed when adjacent areas need to be protected.

In extremely sandy areas, soil stabilization by water or a gelling agent may be used prior to excavation. After excavations are completed, pre-cast or cast-in-place footings would be installed. Steel grillage foundations may be specified in mountainous areas.

The pre-cast footing would be lowered into the excavated foundation hole, positioned, and backfilled. The cast-in-place footing would be installed by placing reinforcing steel and a tower stub into the foundation hole, positioning the stub, and encasing it in concrete. Spoil material would be used for fill where suitable. The foundation excavation and installation would require access to the site by a power auger or drill, a crane, material trucks, and ready-mix trucks.

Construction Yards and Batch Plants - Temporary construction yards would be located near each end of the transmission line right-of-way, and approximately every 20 to 30 miles along the route. These would be located in previously disturbed sites or in areas of minimal vegetative cover where possible. All sites would be determined through discussions with land owners or the land management agencies.

Concrete for use in constructing foundations would be dispensed from a portable concrete batch plant located at approximately 20 to 30 mile intervals. A rubber-tired flatbed truck and tractor would be used to relocate each plant along the right-of-way. Commercial ready-mix concrete may be used when access to tower construction sites is economically feasible.

The construction yards and batch plants would serve as field offices, reporting locations for workers, parking space for vehicles and equipment, sites for material storage, and stations for equipment maintenance. Facilities would be fenced and their gates locked. Security guards would be stationed where needed.

Tower Assembly and Erection - Bundles of steel members and associated hardware would be shipped to each tower site by truck. Steel members would be assembled into subsections of convenient size and weight. The assembled subsections would be hoisted into place by a

large crane and then fastened together to form a complete tower. Figure OBJ-4 illustrates typical construction activities.

Conductor Installation - After the towers are erected, insulators, hardware, and stringing sheaves would be delivered to each tower site. The towers would be rigged with insulator strings and stringing sheaves at each ground wire and conductor position.

For public protection during wire installation, guard structures would be erected over highways, railroads, power-lines, structures, and other obstacles. Guard structures would consist of H-frame poles placed on either side of an obstacle. These structures would prevent ground wire, conductor, or equipment from falling on an obstacle. Equipment for erecting guard structures would include augers, line trucks, pole trailers, and cranes. Guard structures may not be required for small roads. On such cases other safety measures such as barriers, flagmen, or other traffic control would be used.

Pilot lines would be pulled (strung) from tower to tower by a helicopter and threaded through the stringing sheaves at each tower. Following pilot lines, a larger diameter, stronger line would be attached to conductors to pull them onto towers. This is called the pulling line. This process would be repeated until the ground wire or conductor is pulled through all sheaves.

Ground wire and conductors would be strung using powered pulling equipment at one end and powered braking or tensioning equipment at the other end of a conductor segment as shown on Figure OBJ-5. Sites for tensioning equipment and pulling equipment would be approximately two miles apart. If a fiber optic groundwire is installed rather than conventional groundwire, the construction methods would be the same. The appearance of a fiber optic groundwire is the same as conventional groundwire.

The tensioning site would be an area approximately 200 feet by 200 feet. Tensioners, line trucks, wire trailers, and tractors needed for stringing and anchoring the ground wire or conductor would be located at this site. The tensioner in concert with the puller would maintain tension on the ground wire or conductor while they are fastened to the towers.

The pulling site would require approximately half the area of the tension site. A puller, line trucks, and tractors needed for pulling and temporarily anchoring the counterpoise/ground wire and conductor would be located at this site.

Ground Rod Installation - Part of standard construction practices prior to wire installation would involve measuring the resistance of tower footings. If the resistance to remote earth for each transmission tower is greater than 10 ohms, counterpoise (grounds) would be installed to lower the resistance to 10 ohms or less. Counterpoise would consist of a bare copper clad or galvanized steel cable buried a minimum of 12 inches deep, extending from one or more tower legs for approximately 200 feet.

Cleanup - Construction sites, material storage yards, and access roads would be kept in an orderly condition throughout the construction period. Refuse and trash would be removed from the sites and disposed of in an approved manner. Oils and fuels would not be dumped

along the line. Oils or chemicals would be hauled to a disposal facility authorized to accept such materials. No open burning of construction trash would occur without agency approval.

Hazardous Materials Within Corridor - Petroleum products such as gasoline, diesel fuel, helicopter fuel, crankcase oil, lubricants, and cleaning solvents would be present within the transmission line corridor during construction. These products would be used to fuel, lubricate, and clean vehicles and equipment. These products would be containerized by fuel trucks or by approved containers. When not in use, hazardous materials would be properly stored to prevent drainage or accidents.

Hazardous materials would not be drained onto the ground or into streams or drainage areas. Totally enclosed containment shall be provided for all trash. All construction waste including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials would be removed to a disposal facility authorized to accept such materials.

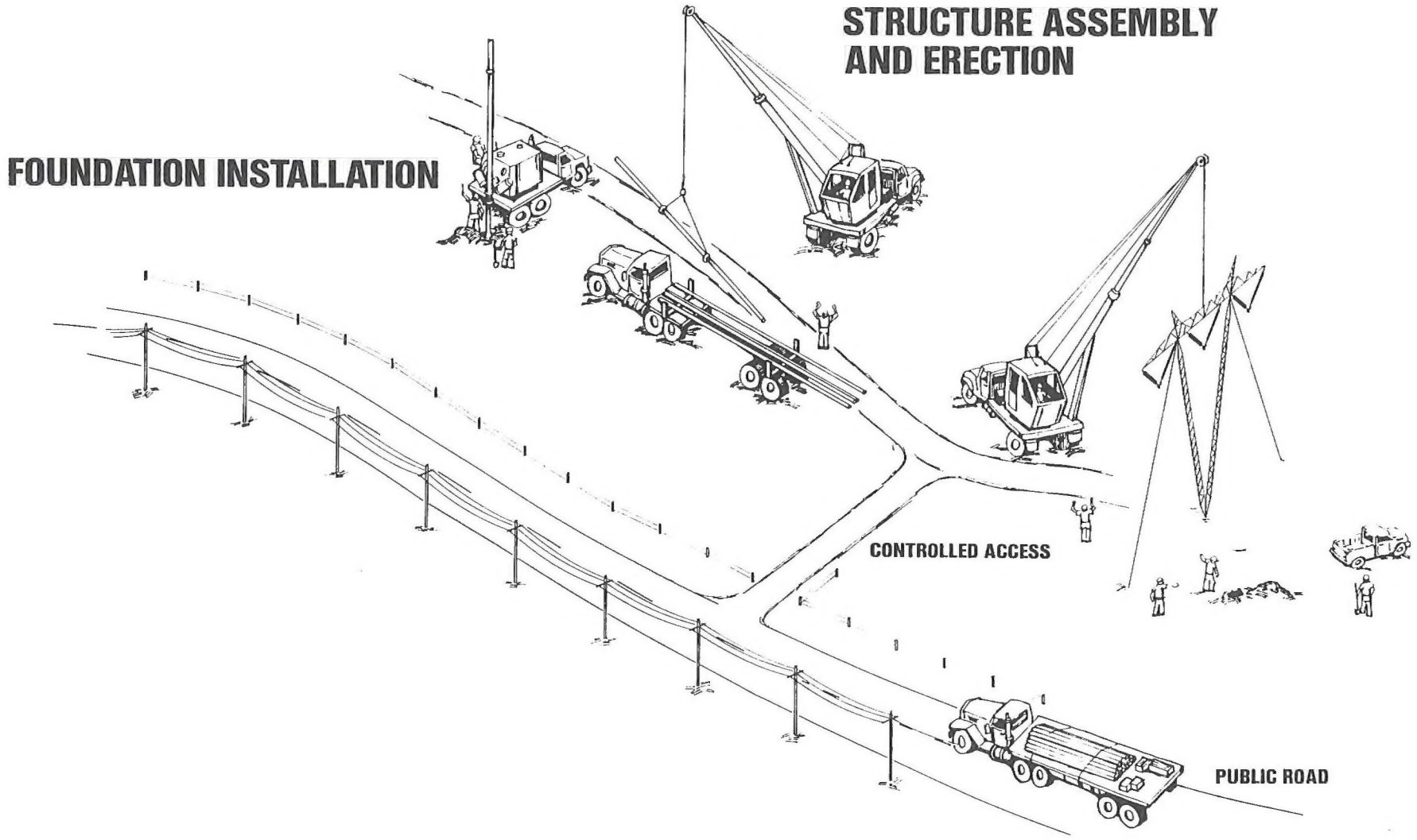
All construction, operation, and maintenance activities would comply with all applicable federal, state, and local laws and regulations regarding the use of hazardous substances.

The construction or maintenance crew foreman would insure that all applicable laws are obeyed. In addition, an on-site inspector would be present during construction to make sure that all hazardous materials are used and stored properly. A health and safety plan would be developed as part of the Construction, Operation, and Maintenance Plan during the engineering and preconstruction phase of the project.

Site Reclamation - The right-of-way would be restored as required by the property owner or land management agency. All practical means would be made to restore the land to its original contour and to restore natural drainage patterns along the right-of-way. Because revegetation would be difficult in many areas of the project where precipitation is minimal, it would be important to minimize disturbance during the construction. All practical means would be made to increase the chances of vegetation reestablishment in disturbed areas.

The total construction period would be approximately two years. The Construction, Operation, and Maintenance Plan that would be prepared during the engineering and preconstruction phase of the project would address site reclamation of disturbed areas.

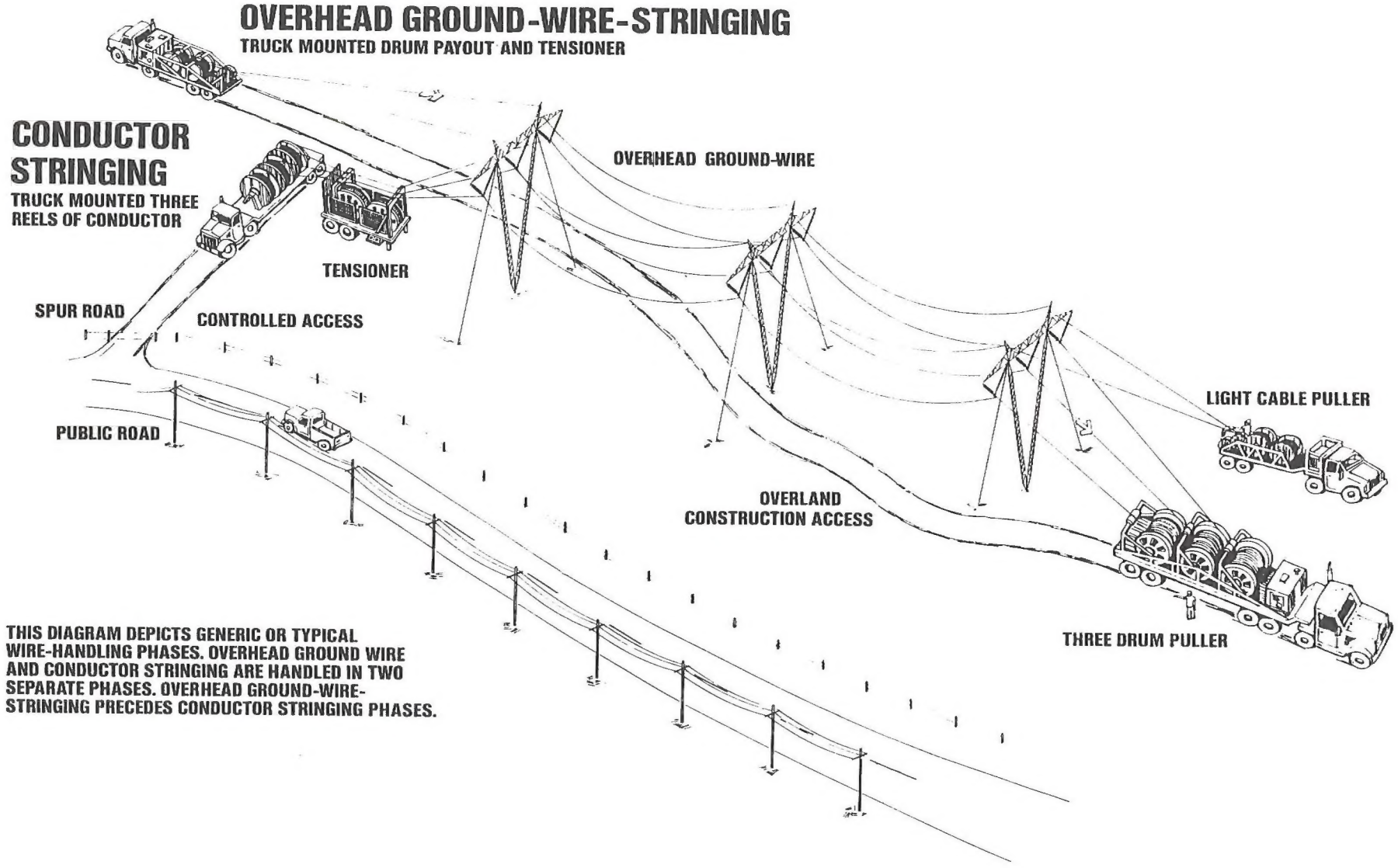
Fire Protection - All applicable fire laws and regulations would be observed during the construction period. All personnel would be advised of their responsibilities under the applicable fire laws and regulations, including taking practical measures to report and suppress fires.



Typical Construction Activities

Dames & Moore

Figure OBJ-4


OVERHEAD GROUND-WIRE-STRINGING
TRUCK MOUNTED DRUM PAYOUT AND TENSIONER
CONDUCTOR STRINGING
TRUCK MOUNTED THREE REELS OF CONDUCTOR
OVERHEAD GROUND-WIRE
TENSIONER
SPUR ROAD
CONTROLLED ACCESS
LIGHT CABLE PULLER
PUBLIC ROAD
OVERLAND CONSTRUCTION ACCESS
THREE DRUM PULLER
THIS DIAGRAM DEPICTS GENERIC OR TYPICAL WIRE-HANDLING PHASES. OVERHEAD GROUND WIRE AND CONDUCTOR STRINGING ARE HANDLED IN TWO SEPARATE PHASES. OVERHEAD GROUND-WIRE-STRINGING PRECEDES CONDUCTOR STRINGING PHASES.

Basic Wire Handling Equipment

Operation, Maintenance, and Abandonment

Operational Characteristics - The nominal voltage for the SWIP transmission line would be 500kV AC. There may be minor variations of up to five percent above the nominal level depending upon load flow.

Permitted Uses - After the transmission line has been energized, land uses that are compatible with safety regulations would be permitted in and adjacent to the right-of-way. Existing land uses such as agriculture and grazing are generally permitted within the right-of-way. Incompatible land uses within the right-of-way include construction and maintenance of inhabited dwellings, and any use requiring changes in surface elevation that would affect electrical clearances of existing or planned facilities.

Land uses that comply with local regulations would be permitted adjacent to the right-of-way. Compatible uses of the right-of-way on public lands would have to be approved by the appropriate agency. Permission to use the right-of-way on private lands would have to be obtained from the utility owning the transmission line.

Safety - Safety is a primary concern in the design of this 500kV transmission line. An AC transmission line would be protected with power circuit breakers and related line relay protection equipment. If conductor failure occurs, power would be automatically removed from the line. Lightning protection would be provided by overhead ground wires along the line. Electrical equipment and fencing at the substation would be grounded. All fences, metal gates, pipelines, etc. that cross or are within the transmission line right-of-way would be grounded to prevent electrical shock. If applicable, grounding outside of the right-of-way may also occur.

Maintenance - The 500kV transmission line would be inspected on a regular basis by both ground and air patrols. Maintenance would be performed as needed. When access is required for nonemergency maintenance and repairs, IPCo would adhere to the same precautions that were taken during the original construction.

Emergency maintenance would involve prompt movement of repair crews to repair or replace any damaged equipment. Crews would be instructed to protect crops, plants, wildlife, and other resources of significance. Restoration procedures following completion of repair work would be similar to those prescribed for normal construction. The comfort and safety of local residents would be provided for by limiting noise, dust, and the danger caused by maintenance vehicle traffic. Details would be provided in the Construction, Operation, and Maintenance (COM) Plan prior to line construction.

Abandonment - At the end of the useful life of the proposed project, if the facility were no longer required, the transmission line would be abandoned. Subsequently, conductors, insulators and hardware would be dismantled and removed from the right-of-way. Tower structures would be removed and foundations broken off below ground surface.

If the line and associated right-of-way are abandoned at some future date, the right-of-way would be available for the same uses that existed prior to construction of the project.

Following abandonment and removal of the transmission line from the right-of-way, any areas disturbed to dismantle the line would be restored and rehabilitated as near as possible to their original condition.

Construction Work Force and Schedule

The total work force required to complete the phases of construction described above would be 100 to 150 people. The initial work force would consist of about 65 people. This force would be added to at approximately two-week intervals until it reaches a maximum of 120 workers. Table OBJ-4 lists the personnel and equipment that would be needed for the construction work force.

From past experience, it is estimated that about 50 percent of this work force would be hired locally. Those who are not local people normally take up temporary housing in nearby communities and commute to and from the job site on a daily basis. Many have their own trailers and park them where connection facilities are available, others occupy rental houses and apartments.

The target date for commercial operation of the project is late 1997. Right-of-way procurement would begin in 1993, and construction is scheduled to commence in early 1995. The project may be built in phases or sections if the market or financial conditions warrant.

PUBLIC AND AGENCY SCOPING PROCESS

The DEIS/DPA process was begun with the filing of a Right-of-Way Application by Idaho Power Company (IPCo) on September 29, 1988 with the Bureau of Land Management (BLM) to construct a transmission line from Midpoint Substation near Twin Falls, Idaho to a new substation near the Intermountain Generating Station near Delta, Utah. Subsequent to this application, BLM determined that an Environmental Impact Statement (EIS) and Plan Amendment would be required. The NEPA requires an EIS to be completed when a federal action, in this case a right-of-way grant to construct a 500kV transmission line across federal land, has potential for significant environmental impacts. The plan amendment was required by BLM because of the potential for the route to be located outside of corridors established in various BLM Resource Management Plans (RMPs), Management Framework Plans (MFPs), or Forest Service (FS) Land and Resource Management Plans (Forest Plans).

Dames & Moore was selected by BLM as the third-party contractor to prepare the DEIS/DPA. A regional study to identify reasonable and feasible alternative transmission line routes was completed in December of 1988. Also during this period, IPCo determined that an intermediate substation would be required in the Ely, Nevada area.

Preliminary comments were obtained from the public following the first newsletter, and from the initial meetings with the various federal, state, and local agencies. The regional study, along with agency meetings and newsletters, were the initial step in the scoping process.

The BLM assumed the role of lead federal agency. The Bureau of Reclamation (BOR), the National Park Service (NPS), and the FS, were identified as cooperating agencies during this process and entered into a Memorandum of Understanding with the BLM to cooperate in preparing the DEIS/DPA.

The public involvement program during the regional environmental study involved disseminating information on the results of the studies and soliciting public comment. The public involvement program also introduced the public to the DEIS/DPA process and established key agency and public contacts. Seven public scoping meetings were held in six locations (two in Ely, Nevada) to further facilitate identifying the public and agency issues.

Information developed during the scoping process formed the basis for the identification of alternatives and the plan of work for the SWIP DEIS/DPA inventory, impact assessment, and mitigation planning studies. The scope of these studies was developed through a comprehensive and systematic process:

- review of previous environmental studies
- public information fact sheet and responses
- agency contacts and consultation
- public scoping meetings and planning workshops

As directed by the CEQ regulations (1978), the extent of analysis for the issues and concerns raised during the agency and public scoping process were determined through consultation among the lead and cooperating agencies. Additional information on this process is provided in the sections that follow.

The project was expanded with an amendment to the Right-of-Way Application on May 7, 1990 to include a route extending south of Ely, Nevada to a new substation site in the Dry Lake Valley in southern Nevada (also refer to Chapter 2 of the DEIS/DPA).

Previous Projects

Existing published and unpublished environmental data, maps, reports, and statements prepared for previous transmission line related projects in the area were reviewed and evaluated to determine their applicability and adequacy for use in the environmental studies. The most relevant information was included from the following reports:

- Intermountain Power Project EIS
- Midpoint to Malin 345kV Transmission Project EIS
- White Pine Power Project EIS

- Thousand Springs Power Plant Draft EIS
- Harry Allen Generating Station EIS

Intermountain Power Project - In November 1979, the BLM released a Final Environmental Impact Statement (FEIS) for a Utah, California, Nevada, and Wyoming joint venture to construct a 3,000 megawatt coal fired generating station at Salt Wash site in Wayne County, Utah. A Record of Decision approving the project was later issued. The power would be distributed to six municipalities in California and participating utilities in Nevada and Utah. The project consists of a generating station, support facilities, and transmission lines. A right-of-way application for 39,500 acres on public land was granted and 4,640 acres of public land were conveyed for power plant facilities. The second transmission line portion of the right-of-way grant was also granted, and was transferred to Los Angeles Department of Water and Power (LADWP) on behalf of the participants of the Utah-Nevada Transmission Project (UNTP) in 1990.

Midpoint to Malin 345kV Transmission Line - In July 1977 BLM released a FEIS for a 345kV transmission line proposed by Sierra Pacific Power Company and IPCo. A subsequent Record of Decision approved the right-of-way grant and construction of the project. The transmission line crosses private, BLM, and state lands in Nevada and Idaho. The 240 mile long transmission line extends due south of Midpoint Substation to Rock Creek. There it turns southwest crossing U.S. Highway 93 eight miles north of the state line. The corridor continues southeast to the Valmy and Oreana substations in Nevada. Additional construction included the new substation at Valmy and new access roads.

White Pine Power Project - In August 1984, the BLM released a FEIS in which White Pine County, Nevada Power Company, and Sierra Pacific Power Company proposed to construct a two-unit, 1500 megawatt coal-fueled, steam-electric generating facility in White Pine County, Nevada. The Record of Decision approving the project was issued in 1985. The site is located on 2250 acres of land currently administered by the BLM. Eight entities in Nevada and six municipalities in California contracted the electrical output of the project.

Thousand Springs Power Project - A DEIS was released by BLM in January, 1990 to construct and operate an eight-unit, 2,000 MW, coal-fired, steam electric power plant in Elko County, Nevada. Thousand Springs Generating Company, a consortium of private investors led by Sierra Pacific Resources, proposed to enter into a land exchange with BLM involving some 15,960 acres of public land and 13,410 acres of private land on a surface-estate-only basis. The project proposed to market electrical energy to utilities in Nevada, California, Oregon, Washington, and Idaho. In 1991 permitting efforts were discontinued and a FEIS was not released on the project.

Harry Allen Generating Station - In 1980, four utilities and a county water conservancy district received a BLM right-of-way grant to develop the proposed Allen Warner Valley energy system. The 2,000 MW Harry Allen powerplant, a section of this system, would be located in Dry Lake, Nevada. Water to cool the Harry Allen plant would be supplied through Clark County (Nevada) Advanced Wastewater Treatment Facility via a 24.5 mile long pipeline. The electrical transmission and supporting communication systems would deliver power to market areas in Utah, Nevada, and California.

Public Participation Program

To facilitate disseminating information and involving the public in the decision-making process for the SWIP, a comprehensive public participation program was developed to meet four objectives:

- establish and maintain the credibility of the technical studies with the public
- inform and educate the public as to the need for the project and possible effects to the environment
- accurately identify and consider the issues and concerns of the public and agencies
- assure that public input and agency policy are integrated with technical data into the overall decision-making processes

The following sections describe how the public was informed about the project and what opportunities were made available for the public to become involved in the DEIS/DPA planning process.

Public Information

During the course of the project a series of newsletters, fact sheets, and project updates were published to inform the interested parties about the environmental process, the project status, and opportunities to participate. Publications were sent out to the individuals, organizations, and agencies on the project mailing list. The mailing list included names and addresses from the lead and cooperating agencies' and IPCo's existing mailing lists, as well as all potentially affected federal, state, and local agencies and environmental organizations. The mailing list was expanded to include about 3,000 interested parties during the process. Copies of all the newsletters, fact sheets, and project updates are located in the Appendix E of this report.

Many of the project information publications contained a response sheet for readers to detach and mail to the project team. The sheets were designed to provide respondents an opportunity to participate in the project's public process and to request additional information about the project. Through the response sheets, the public was provided a mechanism to express their concerns and opinions about the proposed project, the routing alternatives, and the DEIS/DPA process. Response sheets requested the following information:

- name and address of the respondent
- whether or not the respondent wished to receive a copy of the DEIS/DPA

- to list names and addresses of other people the respondent felt should be included on the project mailing list

- if the respondent would like to receive other information about the project

- if the respondent had any comment on existing routing alternatives, new routing alternatives, or other aspects of the project

- to list issues of concern and specific areas or resources that should be avoided or considered when siting the transmission line

The first public information release was a fact sheet in March 1989 that announced the project and described IPCo's plans. This fact sheet was mailed to the more than 1,200 names on the list at the time. This fact sheet introduced the DEIS/DPA process, and included project background, a brief project description, the locations and times of scheduled public scoping meetings, and a schedule of project milestone dates.

A newsletter was published in July 1989 to respond to questions about the project purpose and need. This newsletter also summarized the issues of concern raised at the public scoping meetings and contained information on the project participants and a general description of project scope, planning process, and schedule. A map illustrated the regional study corridors and the alternative corridors discussed at public scoping meetings.

In August 1989, a brief project update was released to announce the identification of a major new alternative from the North Steptoe Valley in Nevada to the Confusion Range in Utah. A map was included to illustrate the general location of the alternative. This update conveyed a brief background of how and why the new alternative was included in the environmental studies. Another project update released in October 1989 announced the extension of the project schedule to accommodate additional environmental studies needed for the new alternative.

Another new alternative along the Juab-Millard county line in Utah was announced in the project update released December 1989. This project update conveyed the reasons and circumstances behind the addition of the new alternative, and contained a map illustrating the location of the new routing segments.

In June 1990, a fact sheet announced the expansion of the SWIP south to a new endpoint northeast of Las Vegas, Nevada, to facilitate transporting power to a connection point with other regional transmission facilities. This fact sheet was mailed to the original mailing list of over 1,200 plus an additional 1,700 individuals and organizations provided by the Las Vegas District of the BLM. The fact sheet announced the times and locations of three additional public scoping meetings in southern Nevada. The fact sheet explained that previously other lines were planned to be built from the Las Vegas area north to Ely, Nevada, before completion of the SWIP. However, the SWIP was now projected to be the first transmission line completed. Formal notification of the project expansion appeared in the Federal Register on June 4, 1990.

A project update was released in October 1990 detailing additional alternatives requested by the U.S. Air Force at Nellis Air Force Base in Nevada. These alternatives resulted from concerns for low-level aircraft operations raised by military representatives at the public scoping meetings held in June 1990. A response sheet was mailed with this project update to obtain feedback about the additional alternatives.

The project update released in December 1990 announced the completion of the detailed environmental resource studies. The information in this update included a brief summary of the results of the resource studies and a synopsis of the planning process. A response sheet was included to once again provide the public with an opportunity to comment.

The addition of several localized alternatives to the east of the Arrow Canyon Range and across the Moapa Indian Reservation northeast of Las Vegas was announced in a project update released in November 1991. The new alternatives followed concerns expressed by the Las Vegas District of the BLM for desert tortoise habitat in Coyote Spring Valley and Hidden Valley. This update announced a public information meeting held at the Tribal Hall of the Moapa Band of the Paiute.

Public Scoping and Input

Public scoping meetings were held in four communities during the last week in March 1989. In addition to the notice published in the Federal Register, notification of the meetings also appeared in newsletters mailed to the project mailing list. A press release and map were sent to 14 newspapers serving the communities in the study corridors. The public scoping meetings were held in:

- Twin Fall, Idaho
- Wells, Nevada
- Ely, Nevada
- Delta, Utah

The purpose of the scoping meetings was to:

- inform the public of the project and solicit their participation in the project planning process
- obtain public and agency input on significant issues of concern that should be addressed
- obtain public comment on concerns about adjustments to routing alternatives being considered
- focus the scope of the future detailed environmental resource studies for the DEIS/DPA

Each meeting began with a presentation by representatives of BLM, IPCo, and Dames & Moore. The presentation addressed the project description, purpose and need, DEIS/DPA planning process, results of the regional environmental studies, alternative routes identified, and the project schedule. The meeting also provided a forum for public input.

Over 85 people attended the public scoping meetings in March 1989. All public comments from the BLM scoping meetings were recorded and summarized by resource or issue. This comment summary was used to identify key issues for the environmental studies and to identify individuals and organizations that have an interest in the project studies. Some of these individuals and organizations were contacted to obtain further information or to identify others who should be informed of the project.

Frequently voiced comments included:

- preference that route remain on public lands and not cross private lands
- route use existing transmission line corridors
- minimize impacts on sensitive visual resources, existing or planned land uses, and cultural and biological resources
- potential conflicts with military aircraft operations

The scoping process also included meetings with federal agencies whose lands or resources may be affected by the proposed project, including the various offices of BLM, FS, and NPS. These agencies made specific recommendations for corridors or areas that were determined to be unsuitable for transmission line routing, or conversely those corridors that may be recommended by agency land management plans. Other corridors not previously identified were recommended for further consideration. Also, scoping served to help eliminate alternatives from detailed consideration (refer to Chapter 2 of the DEIS/DPA).

A newsletter was distributed in July 1989 that summarized the results of the scoping meetings and the alternatives that were to receive detailed environmental study.

As a result of the expansion of the SWIP south to an endpoint in the vicinity of Las Vegas, Nevada, three additional public scoping meetings were held in June 1990. These meetings were held in Ely, Caliente, and Las Vegas to inform the public of changes to the project description and to solicit comments on issues of concern in areas affected by the expansion.

On December 17, 1991, a public information meeting was held at the Tribal Hall of the Moapa Band of the Paiute. The purpose of the meeting was to present the project description, purpose and need, DEIS/DPA planning process, and new alternatives identified east of the Arrow Canyon Range northeast of Las Vegas. The meeting also provided a forum for public input.

Summary of Issues and Concerns

As a result of all public scoping meetings, the following list summarizes the major issues and concerns expressed by the agencies and public:

- visual impacts
- maximize use of public lands
- use of existing transmission line corridors
- minimize land use impacts
- minimize impacts to cultural resources
- minimize impacts to biological resources
- property values

Appendix D of this report contains detailed lists of specific issues, concerns, and comments summarized in the list above.

Publish Notice of Intent

A Notice of Intent to prepare an environmental impact statement and plan amendment (EIS/PA) for the Southwest Intertie Project was published in the Federal Register (Vol. 54, No. 41) on March 3, 1989. The notice described the project, the environmental planning process, the plan amendment process, the times and locations of scheduled scoping meetings, and the applicable legislation and regulations. The anticipated environmental issues outlined in the notice included visual resources, sensitive land uses, cultural sites, threatened or endangered plants and animals, and important wildlife habitats.

Formal notification appeared in the Federal Register on June 4, 1990 to inform the public of the expansion of the SWIP south to a new endpoint in the vicinity of Las Vegas, Nevada.

Planning Workshops

Six public planning workshops were held in January and February 1991 by the BLM and the cooperating federal agencies to:

- report results of the environmental studies for the alternative corridors
- present the preliminary alternative transmission line routes
- gain public input on the acceptability of the preliminary alternative transmission line routes

The planning workshops were held in the following locations:

Twin Falls	Idaho	January 7, 1991
Wells	Nevada	January 8, 1991
Ely	Nevada	February 13, 1991
Delta	Utah	February 14, 1991
Las Vegas	Nevada	February 20, 1991
Caliente	Nevada	February 21, 1991

These workshops were noticed in the December 1990 SWIP newsletter, distributed to the almost 3,000 on the mailing list. Press releases were sent to eight newspapers serving the communities in the area to inform the public of the workshops. Flyers were also posted in and around public establishments in the communities where the meetings were held.

The remainder of this section briefly summarizes each of the public workshops. Public comments, issues, and concerns were recorded at each meeting and are contained in the appendices of this document.

The Twin Falls workshop meeting was attended by 20 people. The primary concerns expressed involved the location of towers on agricultural lands and visual impacts to the Hagerman Fossil Beds National Monument. On agricultural lands the concern was the potential for conflicts between tower locations and farm machinery, crop irrigation systems, and aerial spraying operations. Generally, people expressed a preference that the proposed project use existing transmission line corridors.

In Wells, the workshop meeting was attended by a few local ranchers. The primary concern was the potential visual effects of the project and conflicts with ranching operations in Goshute Valley. Route A was considered unacceptable by the ranchers because of its proximity to their homes. The ranchers preferred Route E, because it would be located farther from their property.

Eighteen people attended the Ely workshop meeting including representatives from the BLM, NPS, White Pine Power Project (WPPP), Farm Bureau, Soil Conservation Service, Nellis Air Force Base (AFB), and Mt. Wheeler Power Cooperative. The primary concerns expressed at this meeting were the cost of the project, and which route would bring the county the most benefit while also being environmentally acceptable. The length of the Southern Route was considered unreasonable and the least desirable route. The 230kV Corridor Route was considered the preferred route because it best met their cost criteria and it would use an existing transmission line corridor.

The Delta workshop meeting was attended by 13 people that included representatives from the NPS, the Utah Fish and Game Department, the Wildlife Federation, Nellis AFB, and Millard County. General consensus at the workshop was that no more transmission lines should be built in the area. The Cutoff Route was generally the preferred route because it was remote (i.e., out of view), away from the views encountered by tourists, and bypassed Great Basin National Park. The Delta Direct Route was the least favored route because it would not cross Millard County (i.e., tax benefits), it would not use an existing utility corridor, could cause potential conflicts with military aircraft operations in the restricted area,

and could cause impacts to the Leland-Harris spring complex. The 230kV Corridor Route was preferred by Millard County because it would use an existing transmission line corridor. However, it was opposed by other people because the corridor is closest to Great Basin National Park. Millard County was strongly opposed to the southern substation site near Sevier Lake. The site at Intermountain Generating Station was favored because of its proximity to existing facilities. The Southern route was opposed because it would cross prime antelope and elk habitat and much undisturbed area.

The workshop meeting in Las Vegas, Nevada, was conducted as an open house. Some questions/comments brought up concerned the military flying operations, desert tortoise habitat, exclusion areas for land uses, and the Aerojet land exchange. No route preferences were recorded at this meeting.

The workshop meeting in Caliente, Nevada, was attended by several local people including representatives from Lincoln County Cooperative and Sierra Pacific Power Company. The primary concerns expressed were for visual impacts and tax revenues to the county.

Agency Contacts

Agencies and organizations having jurisdiction and/or specific project interest within the study corridors were contacted to inform them of the SWIP, to verify the status and availability of existing environmental data, and to solicit their input to the study process. Concerns and recommendations for potential transmission line study corridor locations were discussed and documented.

In addition to contacts by principal resource investigators, management-level contacts were made with key offices of the BLM, FS, BOR, NPS, some state agencies, and the potentially affected counties throughout the three states. Suggestions for modifications to the study corridors were incorporated into the studies.

Agency scoping meetings were also held with agency management resource specialists at each involved agency office prior to initial public scoping meetings in March 1989 and the additional scoping meetings held in June 1990. The purpose of these briefing meetings was:

- to inform BLM representatives with different areas of expertise about the project and respond to their questions. A related objective was to limit the need for agency representatives to attend the public meeting so that the meeting could focus on local residents

- to identify potential local concerns so that each evening's presentation could be responsive to key issues

Documentation of each of the scoping briefing meetings can be found in the SWIP project files, the Scoping Document, and in the appendices of this report.

Meetings with County Commissioners

Members of the project team from IPCo and Dames & Moore met with the county commissioners of each of the potentially affected counties. The purpose of the meetings was to disseminate information regarding the project, including issues and the location of alternative routes and substation facilities, and to discuss any county permitting requirements. The following meetings were held:

Idaho	Jerome County, Idaho - March 13, 1989 Twin Falls County, Idaho - March 28, 1989 Cassia County, Idaho - July 24, 1989 Gooding County, Idaho - July 26, 1989 Lincoln County, Idaho - August 7, 1989
Nevada	Elko County, Nevada - March 15, 1989 White Pine County, Nevada - March 22, 1989 and August 22, 1990 Lincoln County, Nevada - August 20, 1990 Nye County, Nevada - September 5, 1990
Utah	Millard County, Utah - May 2, 1989 Juab County, Utah - January 16, 1990

Steering Committee

A Steering Committee was established at the outset of the project studies to guide Dames & Moore through the DEIS/DPA preparation and to review data and decision criteria. The Steering Committee was comprised of representatives of:

- Bureau of Land Management
  - Burley District (Idaho)
  - Boise District (Idaho)
  - Shoshone District (Idaho)
  - Elko District (Nevada)
  - Ely District (Nevada)
  - Las Vegas District (Nevada)
  - Richfield District (Utah)
- Forest Service
  - Humboldt National Forest (Nevada)
- National Park Service
  - Great Basin National Park (Nevada)
- Dames & Moore

- IPCo
- LADWP

The first Steering Committee meeting was held on February 6, 1989. This initial meeting outlined the coordination needed for the project, the Federal Register notice for the public scoping meetings, and established that BLM would be the federal lead agency, with the FS and the BOR as cooperating agencies. It was agreed that a Memorandum of Understanding (MOU) would be signed by the BLM, FS, and IPCo.

Also discussed was the progress of the regional environmental studies and the selection of alternative transmission line corridors. The committee felt that several of the alternative corridors should be presented in the public scoping meetings as being recommended for elimination from further consideration.

The committee felt it important to coordinate with governor's clearinghouses for regulatory compliance as well as with the individual counties in the three states involved in the project. Scoping meeting agendas and dates were discussed along with fact sheets and comment forms, mailing lists, DEIS/DPA format and content, and plan amendment.

The second Steering Committee meeting was held on May 10, 1989. The public scoping meetings were reviewed as well as some of the responses and letters received on the first fact sheet.

Specific concerns discussed during this meeting included:

- the Minidoka Relocation Center historic preservation site on BOR land near Hunt, Idaho
- populated areas and rural agriculture areas near Hagerman, Idaho and Contact, Nevada
- the O'Neil Basin alternative (the farthest western route near the Nevada-Idaho border)

An alternative around the Great Basin National Park and a Nevada State Highway 6/50 alternative east to King's Canyon were also discussed. In addition, the committee also discussed possible revisions to the preparation plan.

Wildlife was the major topic of discussion at this meeting, including sage grouse, eagles, ferruginous hawks, and wild horses and burros. Other issues covered were Native Americans, cultural resources, microwave sites, substation locations, and the BLM land report.

The third Steering Committee meeting was held on August 23, 1989. The focus of this meeting was the discussion and review of BLM actions on the SWIP including administrative record requirements, right-of-way applications, and plan amendments. Also discussed were tower heights in regard to air flight testing and training in the Air Forces operations areas. Comments were reviewed on the scoping report for the regional study. Other issues

included a discussion of DEIS/DPA data, progress on inventory and impact assessment, the mitigation plan and specific measures to reduce impacts, and location of substations.

The fourth meeting of the Steering Committee was held November 4, 1989. Agenda items included status of the National Park Service (NPS) as a cooperating agency, alternatives addressing FS concerns in Cooper Canyon, the mitigation for the Minidoka Relocation Center, a new alternative route from the North Steptoe area (the Delta Direct Route), Hill Air Force Base conflicts, the project schedule, an inventory update, and the impact assessment/mitigation planning process.

The fifth Steering Committee meeting was held on April 19, 1990. Topics of discussion included the SWIP scope expansion, right-of-way application amendments, the Federal Register notice, review and discussion of the draft purpose and need statement, and mapping of the WPPP corridor. Dames & Moore presented and discussed the substation site selection process, the subroute analysis process, and GIS processing for resource impacts.

The sixth Steering Committee meeting was held on June 20th, 1990. The meeting began with a discussion of the steering committee's comments on the draft purpose and need statement. The committee also discussed the announcement of dates for scoping meetings, the results of the GIS impact assessment modeling, the subroute analysis process, and the feasibility of expanding the SWIP south of Ely.

The seventh Steering Committee meeting was held on September 6, 1990. The opening discussion at this meeting was Clark County's desert tortoise Habitat Conservation Plan. The plan outlines portions of several desert tortoise habitat categories (Category I, II, or III) that may be proposed to be set aside as preservation areas. The steering committee discussed how this plan should be addressed in the SWIP studies and how the "no net loss" of habitat policy would affect the development of transmission lines into the Las Vegas area. The steering committee also discussed the use of utility corridors through the Apex industrial area, the route selection process, an updated project schedule, the Dry Lake alternatives, the Sunrise Mountain EA, and mitigation commitments by the utilities.

The eighth Steering Committee meeting was the first of a series of meetings held over a three day period, December 11-13th 1990. The steering committee discussed the DEIS/DPA outline, the purpose and need statement, and effects of the impact assessment results on routing alternatives. The steering committee also discussed possible alternatives in the vicinity of the Moapa Indian Reservation. The Las Vegas District of the BLM requested that several alternatives to the WPPP corridor be added to the studies. The committee agreed that the desert tortoise issue in Coyote Spring Valley warranted the evaluation of the Moapa alternatives. This decision initiated a feasibility study to determine if there were reasonable and feasible alternatives. In addition, there was continuing discussion of the Sunrise Mountain EA, the status of mitigation commitments from the project proponents, the cumulative effects of the SWIP, and the visual effects to Great Basin National Park and Interstate 84.

The remaining meetings in December focused on determining the routing alternatives to be compared in the SWIP DEIS/DPA. Initially, resource specialists determined the routing alternative preferred by their resource area (e.g., biology, visual, land use, cultural, and

earth). These "resource" preferred routing alternatives were reviewed by an interdisciplinary team to determine preliminary routing alternatives for the DEIS/DPA.

These meetings were facilitated using a consensus building (modified delphi) process to assist resource specialists and agency representatives in determining the relative importance or significance of different impacts types and levels between resources. The discussions at these meetings explored what impacts or types of impacts to which resources are more or less important to consider than others when selecting an environmentally preferred route.

A preliminary DEIS/DPA was submitted to the Steering Committee at the ninth meeting on July 25, 1991 for review. The steering committee discussed the addition of several new routing alternatives to the east of Arrow Canyon Range that might avoid potential conflicts with desert tortoise habitat in Coyote Spring Valley and Hidden Valley. The issue of potential visual impacts to WSAs was also discussed. The environmentally preferred alternative was presented and discussed followed by some discussion of the utility and agency preferred alternatives.

The tenth Steering Committee meeting was held on March 12, 1992 to discuss the results of studies in the Coyote Spring Valley and across the Moapa River Indian Reservation, complete a final review of comments on the preliminary DEIS/DPA, and to discuss the Stateline Resource Area of BLM's Draft RMP and ongoing desert tortoise consultation and Habitat Conservation Plan.

Public Review of DEIS/DPA

Public review of the DEIS/DPA will be completed during a 90-day comment period and through formal public meetings to be held in August, 1992. The Regional Forester and the State Directors of Idaho, Nevada, and Utah will file the FEIS and proposed plan amendment with the CEQ of the Environmental Protection Agency (EPA) following the 90-day review period.

The governors of the states of Idaho, Nevada, and Utah will have a 60-day consistency review on the FEIS to determine if the final recommended action is consistent with state and local government plans and policies. IPCo will be required to comply with applicable requirements of the states of Idaho, Nevada, and Utah, as well as county and local regulations in affected areas.

The Regional Forester will issue a Record of Decision for FS lands with the FEIS/PPA. The State Directors of the BLM will jointly publish the Record of Decision for public lands crossed by the selected alternative. The BLM Record of Decision will be filed 30 days after closing of the public comment period on the FEIS/PPA. The BOR will also issue a Record of Decision if their lands are crossed by the selected alternative.

Military Concerns

During the public scoping meetings Hill Air Force Base (AFB) raised concerns for their R-6405 Restricted Area and military operating areas (MOAs) that are used for low-level flight operations on the Utah Training and Testing Range. Also, following the extension of the project south from Ely to the Las Vegas area, Nellis Air Force Base (AFB) raised concerns over several alternative routes that could affect their MOAs. Both bases routinely conduct critical low-level flight training at 100 feet above the ground in these areas.

Transmission line towers for SWIP would typically range in height from 120 to 130 feet. Approximately 150 miles of proposed alternative routes for SWIP would be Nellis AFB MOAs, particularly the White River and Dry Lake Valley areas. Approximately 60 miles of proposed route on the crosstie from Ely, Nevada to Delta, Utah are of concern to Hill AFB.

Responding to these concerns, extensive discussions were held between Nellis AFB, IPCo, BLM, and Dames & Moore and between Hill AFB, IPCo, LADWP, BLM, and Dames & Moore. Hill AFB has agreed that towers could be constructed in some areas at the typical engineered heights, but would restrict the height to 105 feet in specific areas of concern. No specific agreement was reached with Nellis AFB, although alternative routes recommended for study by Nellis were considered.

Regional Environmental Studies

The regional environmental studies were conducted to evaluate the effects of the proposed project on the natural, human, and cultural environments. The major resource areas included in each of these environments are listed below:

Natural Environment

- threatened and endangered plant and animal species
- wildlife habitat and use areas
- plant habitat
- soils and geology
- paleontology
- surface hydrology
- air quality and meteorology

Human Environment

- existing, planned, and designated land uses
- parks, recreation, and preservation uses
- scenic and aesthetic resources
- electric and magnetic field effects

Cultural Environment

- archeology
- prehistory
- enthnohistory
- history

These studies collected and mapped regional environmental data at a scale of 1:500,000. The data were analyzed and assigned sensitivity ratings. This analysis resulted in a series of opportunities and constraints maps. These maps were used to identify feasible study corridors for siting the proposed transmission line.

The results of the resource evaluation and the analysis are presented in the Southwest Intertie Project Regional Environmental Report (Dames & Moore, April 1989).

Sensitivity Analysis

The individual resources were assigned sensitivity to the routing of a transmission line. Sensitivity is the measure of the probable adverse response to each resource to direct and indirect impacts associated with the construction, operation, maintenance, and abandonment of the proposed transmission line. Criteria used in this determination included:

- **Resource Value:** A measure of rarity, high intrinsic value or worth, singularity or diversity of a resource within the study corridor or region.

- **Protective Status:** A measure of the formal concern expressed for a resource either through legal protection or by designation of special status.

- **Present or Future Uses:** A measure of the level of conflict based on policies of land management agencies and/or use.

- **Hazards:** A measure of the degree to which a resource represents a significant hazard to construction and/or operation of the proposed project.

Each resource was then mapped according to its respective sensitivity level as follows:

- **Exclusion Area:** Areas determined to be unsuitable because of unique, highly valued, complex or legally protected resources; significant potential conflict with current or planned use; and areas posing substantial hazards to construction and operation of the line. For purposes of selection of corridors, exclusion areas were avoided.

- **Avoidance Area:** Areas of potentially high environmental impact because of important, valued resources; resources assigned special status; some conflict with current or planned use; and areas posing some hazard to construction and

operation of the facility. In corridor selection these areas were avoided where possible or conflict with these areas was minimized if avoidance was difficult or impossible.

- **Low to Moderate Sensitivity:** Areas where the resource conflicts that have been identified through the regional environmental study process are minimal, or present little hazard to construction or operation of the facility.

Identification of Alternative Corridors

After completing the sensitivity analysis for each individual resource, a composite sensitivity map was prepared through an overlay process of all resource sensitivity maps. This composite map was used to identify constraints and locational opportunities resulting from combinations of the three levels of environmental sensitivity for the four resources. Study corridor locations were then plotted taking into account the composite sensitivity, the locations of existing transportation and utility corridors, and topographic constraints and utilization of public lands. The corridor width varies to reflect the locations of constraining environmental features, yet allow sufficient margin for planning within each. Corridors represent linear paths where:

- features or areas of exclusion are avoided (e.g. residences, wells, and other sensitive land use features)
- crossing of features or areas of avoidance is minimized
- locations through steep or rugged topography are minimized
- maximized proximity to existing roads that could be utilized for access
- locations are parallel to existing transmission or existing utility corridors
- routing on private lands is minimized in favor of public lands

Several members of BLM, a FS representative, engineers from IPCo, as well as project management from Dames & Moore, were present during and participated in the identification of alternative corridors. Based upon the environmental data available for the regional studies, the selection participants determined that all reasonable alternatives had been identified. The resulting alternatives were presented to the Steering Committee for review. The committee did not identify any additional alternatives at that time.

Alternative corridors identified from the regional environmental studies were flown in a helicopter and fixed-wing aircraft to identify environmental or engineering problem areas, and to further the familiarity of the study team with the environmental, physiographic and engineering characteristics of the study corridors. The mapped environmental resource data and notes on engineering and environmental considerations from the aerial reconnaissance

were the basis for a preliminary route evaluation. The results of the route evaluation were documented and are in Dames & Moore project files.

Alternative Corridor Refinement

The proposed project Purpose and Need, public issues, and agency concerns guided designation and evaluation of corridor routes. An environmental study process was used as a systematic framework for assessing and comparing alternative routes for the proposed transmission line. The necessary information for each of the alternative corridors was collected to predict the potential impacts of the project to the environment. The project team determined the impacts that could be caused by the construction, operation and maintenance of the transmission line. Additionally, alternatives (i.e., other transmission technologies, generation, conservation, and other non route alternatives) were considered and eliminated (refer to Chapter 2 of the DEIS/DPA).

Initial routing alternatives were identified through a Regional Environmental Report. Regional level environmental data were used to determine the relative environmental compatibility of the alternative corridors. Alternatives with unacceptable environmental consequences were recommended for elimination from further consideration by the project Steering Committee. The recommendations were reviewed by the public and agencies during the scoping process. Alternative corridors were eliminated by:

- Documenting regional level environmental data where one routing alternative joined the same end points as another, resulting in greater environmental compatibility. Environmental data were reviewed by the project Steering Committee and recommendations for elimination of routing alternatives were made during agency review and public scoping meetings.

- Documenting public input during the public scoping meetings and public workshops. Some alternatives were eliminated due to public opposition, environmental concerns identified by the regional environmental study, Steering Committee concerns, and routing on private lands.

- System planning studies conducted to determine if the alternatives under consideration would perform to project standards and objectives.

About 3,000 miles of alternative corridors were initially identified in the regional study (refer to Figure OBJ-6). Through a joint effort involving IPCo, LADWP, BLM, FS, the Bureau of Reclamation, NPS, and Dames & Moore, the initial alternative corridors identified in the regional study were reviewed through numerous field and aerial surveys. The objective of the field review was to refine the broad "corridors" of the alternatives, and to delineate assumed centerlines of study corridors based on environmental and engineering input, and to further the familiarity of the study team with the environmental, physiographic, and engineering characteristics of the study corridors.

These assumed centerlines formed the basis for the study corridors for each alternative route (e.g., corridor studies). The field review and delineation of the assumed centerlines were completed in the period of April 1989 to July 1989. Following scoping, about 2000 miles of these alternatives were identified as being reasonable and feasible for detailed study based on the regional environmental issues, public acceptability, and engineering constraints. The results of the route evaluation are documented in the SWIP project files and in the Southwest Intertie Project Regional Environmental Report (Dames & Moore, April 1989).

The resulting data from the corridor studies were summarized into profiles for each alternative study corridor. These alternative study corridors were then compared, and an environmentally preferred corridor (corridor with the least impacts to the environment) selected.

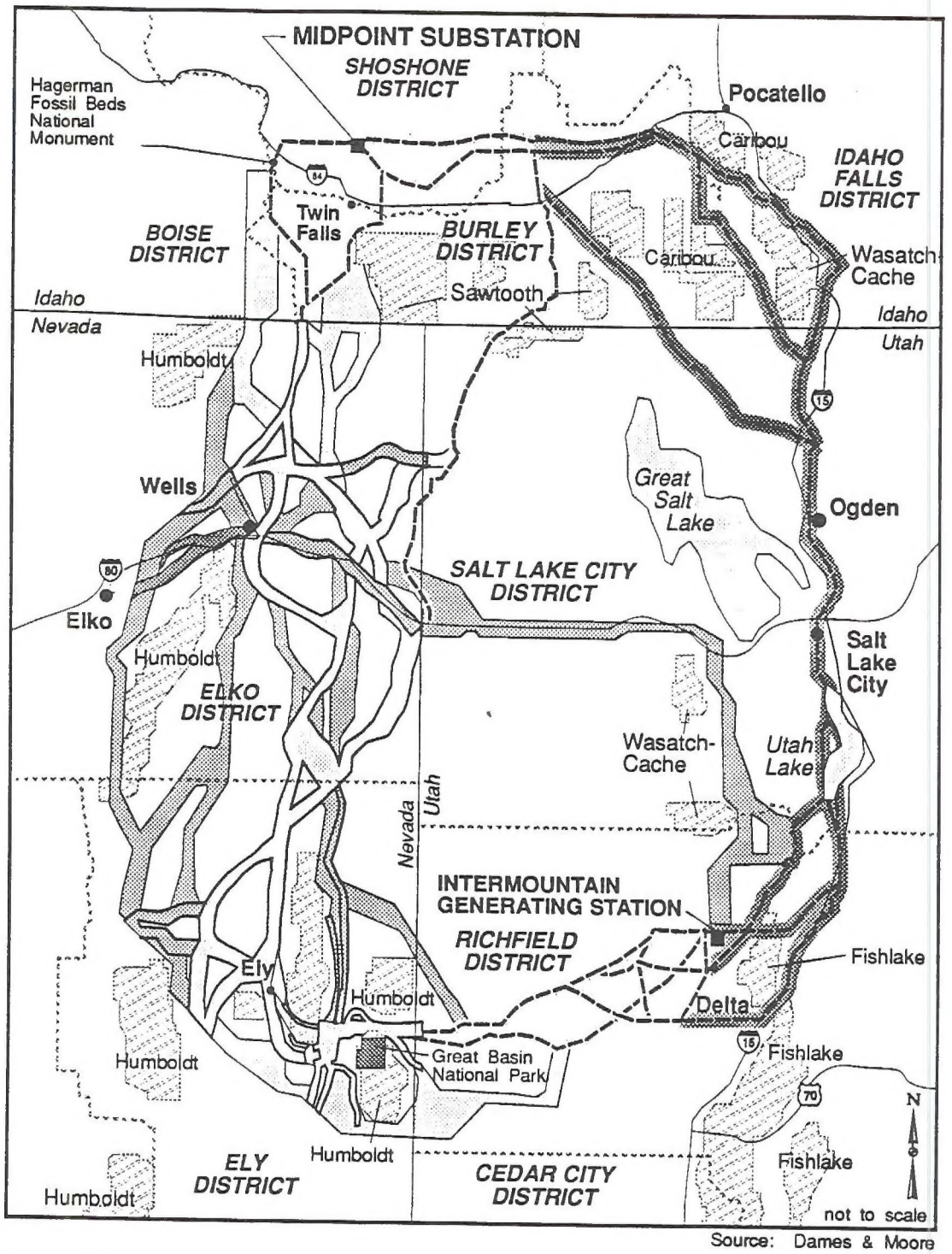
CORRIDOR STUDIES

A Scope/Preparation Plan was developed for the environmental document (Preparation Plan for the Southwest Intertie Project Environmental Studies, Dames & Moore). This plan considered the following:

- Previous studies, reports, EISs, Draft and Final Forest Plans for the Humboldt National Forest, MFP for the Burley District, and the RMPs for the Resource Areas within Elko, Ely and Richfield Districts of the BLM
- Issues and alternatives resulting from the Regional Siting Studies
- Input from the agency/public scoping meetings
- Federal environmental reporting and compliance requirements

Following completion of the regional environmental studies, review of existing studies, public input and scoping meetings, agency input and review, and review by the project Steering Committee, approximately 1,600 miles of alternative study corridors were studied in detail (Figure OBJ-7). Study corridors were established along assumed centerlines delineated in each regional corridor. These study corridors range in width from two to six miles depending upon the needs of and concerns for each resource. Detailed environmental data were compiled at 1:100,000 scale.

These data provided the baseline for identifying potential impacts and appropriate mitigation measures, both generic and specific (refer to Tables OBJ-5 and OBJ-6). Further, these data form the basis for the comparison of routing alternatives. Specific mitigation measures, recommended on a case-by-case basis, determined the residual, or unavoidable adverse, impacts to the environment along each study corridor. Detailed results of the inventory, impact assessment, and mitigation planning are provided in the technical reports (Volumes II, III, and IV).



Source: Dames & Moore

Legend

- BLM District Boundary
- Forest Service
- Recommended for Elimination
  - BLM
  - Environmental
- Recommended for Study in EIS
- BLM/USFS Corridors
- Existing ROW
- Corridor Indentified in Regional Study

Regional Study Corridors

Dames & Moore

Figure OBJ-6

The impact assessment covers an area of one-quarter mile either side of the assumed centerline of each study corridor. This assessment area provides final engineering of the transmission line with the flexibility to site individual towers, access roads, and other related facilities within the right-of-way.

The corridor studies were initiated in the summer of 1989 involving collection of detailed environmental data for the resource areas previously described. The inventory of resource data involved contacts with federal, state, and local agency resource specialists and land managers. The data, collected, mapped, and field verified by Dames & Moore resource investigators, were reviewed by agency resource specialists.

The planning process used for the SWIP applied state-of-the-art technology in the form of a geographic information system (GIS) to map, analyze, and manage the voluminous data collected for the inventory. The data collected by resource investigators were supplemented by "remotely sensed" data from multi-spectral satellite data. This technology was used by several of the resource investigators to verify mapped data.

The GIS was utilized during the impact assessment and mitigation planning process. The system applied a variety of models developed by resource investigators to evaluate and assess the potential impacts the proposed project. This section describes the planning process in detail including the application of the GIS.

Planning Process

A geographic information system (GIS) was used to assist in the preparation of the required environmental impact statement/plan amendment (EIS/PA). The GIS was originally used to evaluate environmental issues and help identify alternative transmission line corridors in Phase I of SWIP (also refer to SWIP Regional Environmental Report, April 1989). GIS processing was performed using Dames & Moore's Geographic Information Management System (GIMS). This section describes the following GIS applications:

- digitizing of resource inventory data as collected and recorded on maps by resource principal investigators
- production of baseline resource inventory maps and data reports
- conversion of mapped resource data to a digital database format
- development of pre-assessment models to establish the level of potential ground disturbance associated with construction activities, the potential increase in public access into remote areas, and degree of visible change in the landscape
- development of impact assessment models to evaluate the how construction and operation of the proposed project would effect resource values and features

- production of impact maps (to scale) that graphically illustrate the locations and magnitudes of potential resource impacts

- development and production of tabular impact data reports that describe the location and magnitude potential impacts along the assumed centerline of alternative transmission line corridors.

- development and application of analysis for siting and selecting substation facility locations using engineering and environmental criteria

The GIS provided the inventory and impact assessment/mitigation planning process with the ability to summarize the voluminous environmental data, assist reviewers and decision makers in identifying and assessing specific impacts, and comparing routing alternatives.

Substations, series compensation stations, and microwave communication facilities sites were also evaluated during the environmental studies. Siting areas for substation and series compensation station facilities were inventoried by the same methods and for the same resource categories as the study corridors.

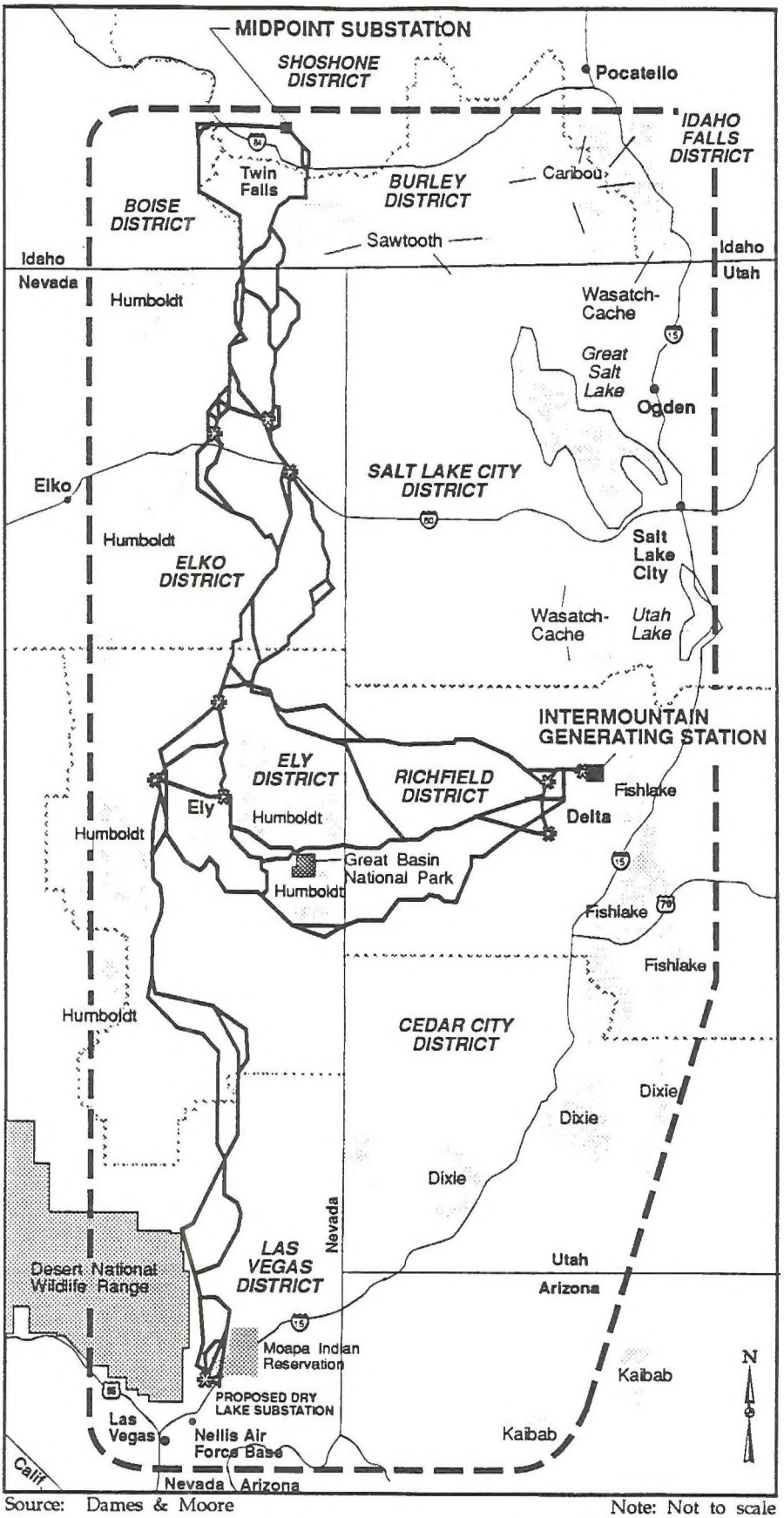
Alternative sites were selected for substations and series compensation stations based on a set of environmental and engineering criteria. The GIS facilitated the selection of sites with opportunities and constraints mapping. The resource inventories for the siting areas were input into the GIS and models adapted from those used for the corridors analysis were used in impact assessment.

Alternative microwave facilities sites were identified by IPCo representatives. The resource inventory and impact assessment for these sites were conducted manually without the assistance of the GIS.

Data Inventory and Mapping

Initially, a set of standard base maps was produced for use by the resource investigators during their data collection. Twenty-two USGS 1:100,000 scale metric series base maps covering the SWIP study corridors were assembled from negatives and photographically reproduced on mylar. In addition to the planimetric base and contour lines already present on the these maps, the centerlines for proposed transmission line, and line work representing data collection corridors of one, two, four, and six miles wide were added. The various corridor widths were utilized by principal investigators as limits for mapping their resource data. The appropriate corridor width was selected based on the resource and the nature of the data. The four mile corridor width, originally intended for mapping land use resources, was expanded to six miles so that viewpoints could be selected directly from land use data.

The resource data types listed below were mapped on mylar at 1:100,000 scale. The number of data features or themes included on each resource map, the corridor width used for data collection, and the data type (e.g., Area, Point, or Linear) used to represent resource features are shown below.



LEGEND

- ALTERNATIVE CORRIDORS
- BLM District Boundaries
- Forest Service Boundaries
- Alternative Substation Siting Area

Source: Dames & Moore

Note: Not to scale

Southwest Intertie Project Alternative Corridors

Dames & Moore

Figure OBJ-7

Resource Type	Number of Classifications	Corridor Width	Data Types
Existing & Planned Land Use	52	6 mile	A,P,L
Parks, Recreation & Preservation	78	6 mile	A,P,L
Agency Visual Mgmt. Classes	55	6 mile	A
Landscape Character Types	30	6 mile	A
Sensitive Viewpoints	48	6 mile	A,P,L
Transportation Access	9	6 mile	L
Cultural*	--	2 mile	A,P,L
Sensitive Wildlife	217	2 mile	A,P,L
Sensitive Botanical	22	2 mile	A,P
Soils	5	1 mile	A,P
Water Resources	12	1 mile	A,P,L
Mining Claims	3	6 mile	A,P
Land Jurisdiction	30	centerline	L
Landcover (TM digital data)	13	full coverage	A
SPOT Data	4	full coverage	A,P
Topography (USGS digital data)	—	full coverage	Surface

* Cultural data was mapped on USGS 7.5′ and 15′ topographic maps

Digitizing

All digitizing was performed using a Calcomp digitizing tablet interfaced to an IBM/AT personal computer. The data entry process began with digitizing the corridors and centerlines from each of the seventeen 1:100,000 scale base maps or "modules". Next, each of the individual resource data maps were digitized by module, a total of 17 module maps. All of the resource data maps were digitized from mylar data transfer sheets, except cultural resources, which were digitized from USGS 7.5′ and 15′ topographic maps.

Coordinate Processing

Each of the original base maps were positioned in Zone 11 of the Universal Transverse Mercator (UTM) coordinate system to geographically relate all of the resource data map files (modules). Several steps were required to bring these data files to this common geographic base. After an individual module of data was digitized, the raw data file was transferred from the PC computer into GIMS, operating on a VAX 3100 minicomputer. A series of GIMS commands were used to further process and verify data integrity. In GIMS, the file was converted from digitizer table coordinates (inches) to "real world" UTM coordinates. This conversion was accomplished using a master list of UTM coordinates that correspond to the latitude and longitude of the bounding edge (neat) line found on each of the 1:100,000 module maps.

Geographic Editing

The converted data files then required further processing or editing by the GIMS operator using a graphics terminal connected to the VAX minicomputer. Initially, the 1, 2, or 6 mile wide were digitized from the 1:100,000 scale base maps. The file containing the appropriate corridor width was appended to each of the resource data files. The corridor defined the limit of the digitized resource data and also served as a boundary for linear and polygonal data types that would have otherwise extended beyond the corridor.

The resource data files were then edited to remove extraneous digitized data that exceeded the limits of the 1, 2, or 6 mile corridors. Polygonal data that extended beyond the corridors were adjusted to "close" along the lines that define the corridors. Linear data that exceeded the corridor were simply clipped at the corridor lines. This step was particularly important for polygonal data because GIS systems require polygons to be closed geometric objects so that each one can be uniquely classified. To complete the editing procedure, a consolidation program processed each edited data file to connect the beginning and end points of lines that form a polygons.

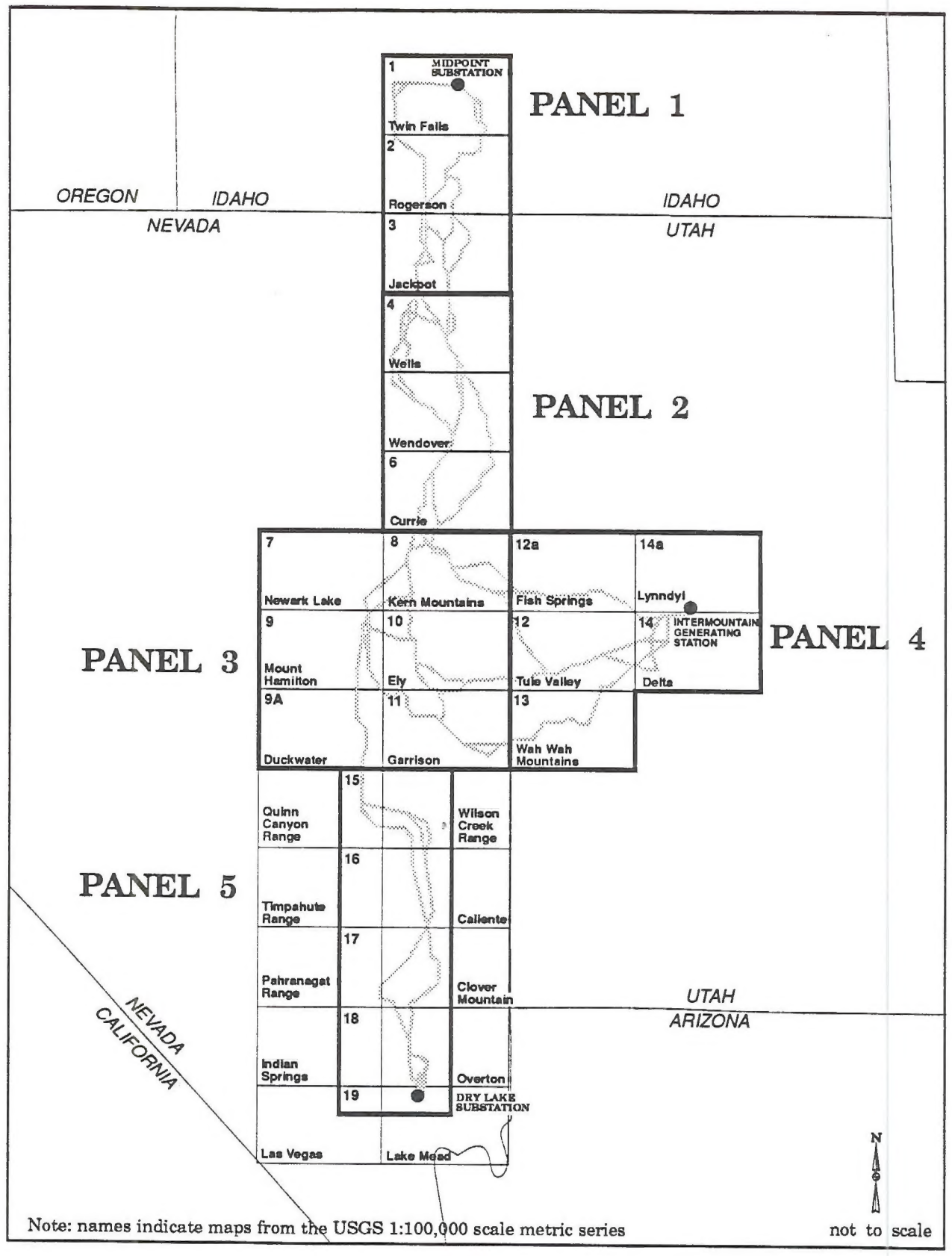
After editing, each resource data file was checked by the label program to ensure that polygonal data were topologically correct, that is, each polygon has only one label. Only polygonal data required processing with the consolidation and label programs. A file was considered to be "cleanly" edited when no topological errors were found, meaning that all polygons were completely closed and the data classifications on each side of a polygon line were defined.

Verification Process

Edited resource data files were plotted on vellum paper at the original 1:100,000 module scale using a Calcomp 1044 eight-pen plotter. These "checkplots" were given to the resource principal investigators to be reviewed for completeness and compared with their original mapping to verify digitizing, editing, and label accuracy. Corrections and/or additions made by the principal investigators to these plots were returned to update and refine the GIS database.

Combining Modules

Once the resource data files were completed, the twenty-two individual data modules for each resource were assembled to form five "panels" (refer to Figure OBJ-8). These panels were "stitched" together using the GIMS editor. Three to five modules were assembled and formatted to create 1:100,000 scale maps of the resource inventory that were reasonably manageable for submission to the agencies for review. The Thematic Mapper (TM) classified satellite data and data digitized from the SPOT imagery were also assembled in the panel format.



Index of Map Modules and Panels

Developing Resource Inventory Data Maps

In order for GIMS to perform analytical functions on the resource inventory data, the digital panel maps were converted into a cell format. The conversion changed the maps from a vector format (e.g., points, lines, and polygons) to a cell format. A specific configuration of 150 X 150 meter cell size selected was because the impact assessment addressed the proposed 200 foot right-of-way plus some additional area to accommodate localized adjustments of tower placement.

The Thematic Mapper data were aggregated from the native 30 x 30 meter pixel resolution of the satellite imagery to the 150 X 150 meter GIMS cell format. This process used a weighting system based on land use type aggregated the more significant land cover types to be retained in the sampling process.

Once the data in the panels maps were converted to a cell format, a sampling strategy was created for each panel. These sampling strategies were required because the overall coverage of each panel varied.

Resource Inventory Panel Maps and Reports

To finalize the inventory phase, GIMS resource inventory maps were plotted at 1:100,000 scale. Each panel map was formatted with border, title, north arrow, bar scale, and legend. The legend correlated the resource features or classifications to numeric codes identifying the points, lines, and polygons on the map. The panel maps were formatted and plotted in an AutoCad drawing file. The complete GIMS resource database, consisting of eleven maps per panel, was plotted on vellum paper. These plots were reproduced and copies were sent out to the agencies for their review.

In addition to the resource panel maps, detailed tabular inventory reports were generated to quantify the mapped data of each resource. These tables were generated for each panel and included area measurements (in acres) for each data classification, feature or theme within the map corridor.

Pre-assessment Models

Prior to performing detailed impact assessments, five pre-assessment models were developed to analyze and evaluate the affected environment for each resource data map. The following pre-assessment models were created using the mathematical and logical GIMS commands.

- Ground disturbance model
- Public accessibility model
- Visual contrast model

- Viewshed model
- Cultural predictive model

Ground Disturbance Model

The purpose of this model is to create a map depicting the estimated area of ground disturbance that would occur during the construction of a 500kV transmission line. Based on previous experiences with transmission lines, five access levels were developed as assumptions to estimate the area that could be expected to be disturbed by construction activities (e.g., upgrading existing roads, new road construction, tower sites, etc.). The following describes how these access levels were derived and then combined to form the final map:

Access Level 1: agricultural lands - no new roads needed
- created by selecting out the four agricultural land types classified Thematic Mapper satellite landcover data

Access Level 2: existing access roads, no new roads needed
- created by placing a one cell buffer around the different road types (e.g., unpaved improved roads, unpaved unimproved roads, and jeep trails) extracted from the Transportation map

Access Level 3 - new roads needed in flat terrain
- created by selecting slopes ranging from 0 to 8 percent on the slope map generated from digital elevation model (DEM) data

Access Level 4 - new roads needed in moderate terrain
- created by selecting slopes ranging from 8 to 35 percent from the slope map

Access Level 5 - new roads needed in steep terrain
- created by selecting slopes greater than 35 percent from the slope map

A composite map of these access levels was created. This map quantified an estimate of the area of potential ground disturbance from the upgrade of existing roads or the construction of new access roads.

Public Accessibility Model

This model was developed to determine the degree of change in the density of roads if new roads were constructed in remote areas. Maps depicting the change in road density from the existing network of roads to that network with the addition of new access roads were created for each panel. The degree of change was expressed in four levels as percent of change. These maps illustrated the level of increased public access.

A GIS data cell with a value of zero indicated that an existing road is present, which correlates to high level of existing access. Conversely, a cell with a value of 100 indicated that if a new road was constructed, there would be a 100 percent change in road density in an area. A high level of change in access means that public accessibility into an area would be significantly increased.

The public accessibility map was created by combining the new roads predicted in the ground disturbance model (access levels 3-5) to the existing road network (previously digitized as the transportation) to produce a map of the increases in the total road density caused by the construction of the transmission line. The percent change in road density was calculated by dividing new road density by the total road density and then multiplying by 100. The final public accessibility map was subdivided into four categories of percent change for use in the assessment models:

0 - 20%	The line routes could generally be accessed by existing roads; only a few short spur roads may be required; little to no increase in public access is expected
20 - 40%	There are some existing roads in the area; some new road construction my be needed to access the line route in some areas
40 - 50%	Some existing roads are in the vicinity; new roads would be needed to gain access to large portions of the line route
50 - 100%	Remote areas with few, if any, existing roads; new roads would be needed to gain access to much of the line route

The resulting data were summarized into profiles of 0.1 mile increments along the assumed the centerline of each study corridor.

Visual Contrast Model

The visual contrast model was developed to establish the level of change that would occur if a 500kV transmission line were introduced into the landscape. This model was actually the product of the combination of two sub-models that evaluated the following components of visual contrast:

- vegetation contrast - from the disturbance or removal of grasses, shrubs, or trees
- landform contrast - changes the landscape from road construction
- structure contrast - the presence or absence of existing transmission lines

The vegetation/landform contrast model produced a map through a matrix that combined two previously created maps: the ground disturbance map (access levels 1-5) and a map of vegetation diversity. Vegetation diversity was derived from nine classes of the Thematic

Mapper satellite landcover data. Comparing the contents of these two maps through the matrix produced a new map. Vegetation/landform contrast levels were represented by following values:

1 = strong contrast
2 = strong to moderate
3 = moderate
4 = weak to moderate
5 = weak contrast

The structure contrast model created a map through a matrix of existing tower types versus proposed tower types. This model also contained a feature to evaluate the use of a special tower type where the proposed line crosses agricultural lands. This feature first evaluated the Thematic Mapper data to determine if the centerline of a proposed alternative crossed agricultural lands or not. The model then performed a matrix comparison of existing structures and proposed structures to produce a structure contrast map. The model determined the presence or absence of existing transmission lines from the Existing & Planned Land Use resource data map. Structure contrast levels were represented by values of levels: 1 = strong, 2 = moderate, or 3 = weak.

The overall visual contrast map was created by a matrix that combined the results of the vegetation/landform and structure sub-models. Figure OBJ-9 illustrates the process of the visual contrast model and sub-models in flow diagrams. Overall visual contrast levels were represented by values of levels: 1 = strong, 2 = moderate, or 3 = weak.

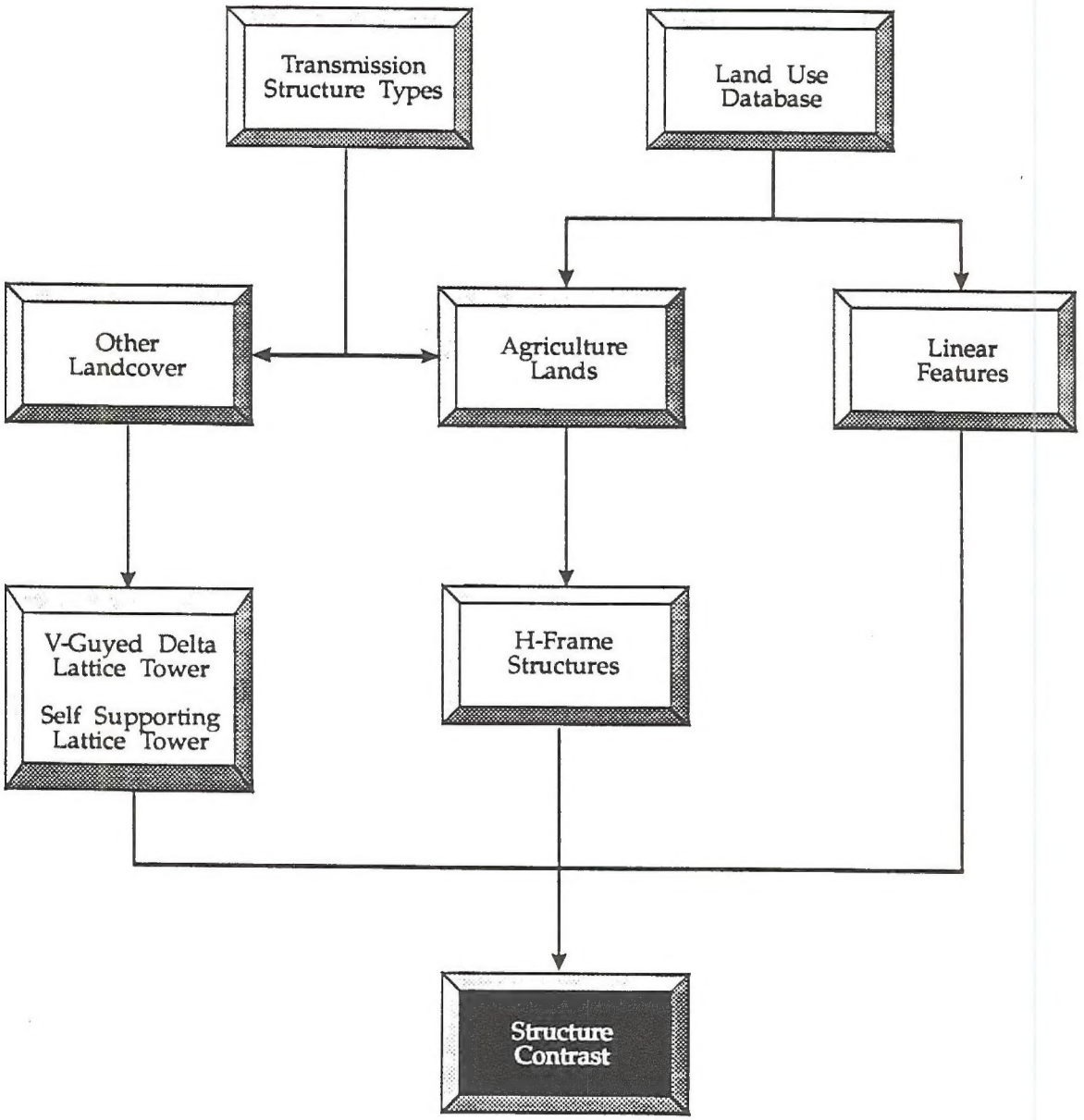
Viewshed Models

The visibility of the proposed transmission line project from sensitive viewpoints was determined through viewshed maps. Viewshed maps were generated by a model that "looks out" from viewpoints over a project landscape created from USGS digital elevation mapping. Six viewshed models were developed to determine the visibility from a variety of viewpoints:

- Viewsheds from residences - This model used the residences identified on the SPOT imagery as viewpoints and computed a viewshed distance of five miles for each home

- Viewsheds from roads of high sensitivity - Scenic highways, scenic byways, and recreation destination roads (e.g., access to wilderness areas) were extracted from the viewpoints map for computing this model and computed a viewshed distance of ten miles from each viewpoint

- Viewsheds from roads of moderate sensitivity - For this model, Interstate, U.S., and State highways were selected from the Transportation inventory map as viewpoints and computed a ten mile viewshed for each feature



Structure Contrast Model

- Viewsheds from recreation areas of high sensitivity - This model used viewpoints from the Parks, Recreation, and Preservation inventory map as well as selected features from the viewpoints map and computed a viewshed distance of ten miles for each sited.

- Viewsheds from recreation areas of moderate sensitivity - For this model, the remaining features from the viewpoints map were used and computed a ten mile viewshed distance for each feature.

- Viewsheds from cultural sites - This model used cultural sites selected by the cultural principal investigator as viewpoints and computed a viewshed distance of five miles for each site.

The viewshed models placed the observer (5 feet above the ground) at each viewpoint. The view from each viewpoint looked out (360 degrees) across the landscape. The transmission towers (assumed 125 feet tall towers) were placed in the landscape along the centerline of each of the study corridors. The transmission line towers were placed in a continuous line like a wall to account for the potential placement of a tower anywhere along the centerline.

The maps generated by the viewshed models illustrated the area of the landscape visible from each sensitive viewpoint. The viewshed maps represented visibility by dividing each viewshed into five distance zones. These distance zones were measured radially from each viewpoint creating concentric circles around each viewpoint. In many cases, the circles of viewsheds are broken by intervening topography. Where viewsheds from more than one viewpoint overlap, the distance zone of the nearest viewpoint took precedence. The five visibility distances zones for viewsheds were:

- 0 - 1/4 mile
- 1/4 mile - 1 mile
- 1 - 3 miles
- beyond 3 miles
- seldom seen

Cultural Predictive Model

The purpose of this model was to develop a map that could identify areas where cultural sites would most likely expected to occur. Features from three data sources, the water resources data maps, the landcover maps, and the digital elevation maps, were combined using several matrices to create a map that represents areas of potential cultural sensitivity.

The correlation of cultural sites to piñon-juniper vegetation was critical to this model. Piñon-juniper vegetation occurs in the mountain shrub category on the land cover map classified from Thematic Mapper satellite data. The piñon-juniper vegetation type was isolated from other vegetation types with topographic data. The elevation zone between 4,500 and 7,500 feet is where the piñon-juniper forest type would typically occur. Finally, the model computed the distance between piñon-juniper vegetation and perennial streams,

rivers, and springs, obtained from the water resources data map. Sensitivity values were assigned to the predicted site areas (piñon-juniper) based on three distance intervals (0-500m, 501-1,000m, 1,001-1,500m) from known water sources. A matrix was developed to compare these three distance zones and the presence or absence of piñon-juniper vegetation. This matrix produced a map of sensitivity ratings that represent levels of potential for the discovery of cultural sites.

Impact Assessment Models

This section describes how impact assessment models were developed to evaluate the effects of ground disturbance, increased public accessibility, or visual contrast on the individual resource features and values of each resource inventory. The results of these pre-assessment models (previously described) formed the basis for quantifying the potential effects of the construction and operation of the proposed 500kV transmission line. A total of 21 impact assessment models were developed and implemented to identify and document potential resource impacts.

Ground Disturbance Impacts

The maps generated by the ground disturbance pre-assessment model were used by eight impact assessment models to determine potential impacts of construction activities (e.g., blading of new access roads) on sensitive resources features or values. The impact assessment models combined the maps generated by the pre-assessment models with the resource inventory panel maps through a series of three matrix functions to determine:

- initial impacts
- mitigation measures
- residual impacts

Eight of the impact assessment models evaluated the results of ground disturbance pre-assessment model on the following resource inventory panel maps:

- Soils resources
- Water resources
- Sensitive plant species
- Sensitive wildlife species
- Land use: existing and planned
- Land use: parks, recreation, and preservations
- Cultural resources (no mitigation measures applied)
- Predicted cultural resources (no mitigation measures applied)

Each model contained three matrices to evaluate the effects of the five ground disturbance access levels on each resource. The principal investigators determined the values placed in the initial impact, mitigation, and residual impact matrices for their resource. Based on these

values, the first matrix determined the initial effect of the five ground disturbance levels on each resource feature or value listed in each inventory panel map. The values used in the initial impact and residual impact matrices were:

1 = No identifiable impact
2 = Low impact
3 = Moderate impact
4 = High impact

Selectively committed mitigation measures (refer Table OBJ-6) were applied to these initial impacts based on the values in the second matrix (mitigation measures) that specified an appropriate individual or combination of mitigation measures. The third matrix, residual impacts, modified the values in the initial impact matrix based on the predicted effectiveness of mitigation, as determined by the resource principal investigators.

To evaluate the performance and check the results of the impact assessment models, a set of 1:500,000 scale maps for both initial and residual impacts were generated for each resource panel map. Following this review, preliminary impact assessment maps were produced at 1:100,000 scale on the a graphic printer. These maps were reproduced and copies were sent to the resource principal investigators for review.

Public Accessibility Impacts

The maps generated by the public access pre-assessment model were used by three impact assessment models to determine potential impacts of increased access into remote areas (e.g., construction of new access roads) on sensitive resources features or values. These impact assessment models again combined the maps generated by the pre-assessment models with resource inventory panel maps through a series of three matrices. The matrix values defined in the previous description of the ground disturbance impact models were also used in these models.

Three of the impact assessment models evaluated the results of the public access pre-assessment model on the following resource inventory panel maps:

- Sensitive plant species
- Sensitive wildlife species
- Cultural resources (no mitigation measures applied)

Refer to the previous description of ground disturbance impact models for a discussion of the process for the mitigation and residual impacts matrices.

Visual Impacts

The maps generated by the visual contrast pre-assessment model were used by six impact assessment models developed to determine the potential impacts associated with visual

contrasts caused by construction activities (e.g., blading of new access roads, towers sites, etc.) on sensitive viewpoints. Two additional models also used the visual contrast mapping to determine potential project effects on scenic quality and VRM/VQO designations. The visual resource impact assessment models combined the maps generated by the visual contrast pre-assessment models with the resource inventory panel maps through a series of three matrices. The inventory panel maps included viewshed maps from sensitive viewpoints, maps of scenic quality, and maps of VRM/VQO designations. The visual contrast impact models used the values that were defined in the previous description of the ground disturbance impact models.

Eight impact assessment models evaluated the results of the visual contrast pre-assessment model on the following resource inventory panel maps:

- Viewsheds from residences
- Viewsheds from high sensitivity roads and highways (e.g., scenic highways, recreation destination access roads, etc.)
- Viewsheds from moderate sensitivity roads and highways (e.g., interstate and other federal and state highways)
- Viewsheds from high sensitivity recreation sites (e.g., visitor centers at national or state parks, campgrounds, day use areas, etc.)
- Viewsheds from moderate sensitivity recreation sites (e.g., boat ramp, parking lot at recreation facility, off-road vehicle use areas, etc.)
- Viewsheds from selected cultural sites (e.g., National Register sites, important habitation sites, historic land uses, etc.)
- Scenic quality (inherent aesthetic quality of the landscape)
- VRM Classes (compliance with visual management agency prescriptions)

The first Six of the impact assessment models (above) combined the maps generated by each of these viewshed models with the maps generated by the visual contrast pre-assessment models. Similar to the previous model descriptions, these models used a series of three matrices to determine values for initial impacts, mitigation, and residual impacts for the viewpoints in each of the viewshed models.

The scenic quality impact assessment model combined maps of scenic quality classes with the maps generated by the visual contrast models. Mapping of scenic quality classes was derived through an evaluation of the landscape character types mapping. The evaluation analyzed and reclassified landscape character units into the scenic quality classes:

- Class A
- Class B

- Class C
- agricultural land

The VRM/VQO impact assessment model combined inventory mapping of VRM/VQO designations with the maps generated by the visual contrast models. Unlike the other visual impact assessment models, this model determined whether or not visual contrasts from the construction and operation of the proposed transmission line would comply with definitions of visual resource management designations:

BLM	Forest Service
• Class I	• Preservation
• Class II	• Retention
• Class III	• Partial Retention
• Class IV	• Modification

This model used values of "yes" or "no" in the initial and residual impact matrices. The mitigation matrix operated like other models, by applying values that represent individual or combinations of mitigation measures to modify the values assigned by the initial impact matrix.

The seven visual impact assessment models for viewsheds and scenic quality all used impact values of 1 to 4 (refer to the ground disturbance impact assessment models previously described) in the initial and residual impact matrices.

Following the initial processing of these eight visual impact assessment models, maps of both the initial and residual impacts determined by each model were generated and reproduced at 1:500,000 scale for each of the panels. These preliminary maps were reviewed and checked. The matrices were adjusted, as necessary, and preliminary maps were printed at 1:100,000 scale. Copies were sent to the principal investigators for further review.

Impact Maps and Reports

Following a careful review of the initial impact and residual impact matrices and associated 1:100,000 scale impact maps, the principal investigators submitted their final revisions and additions. After any revisions were made, the assessment models were rerun to produce new maps. A final set of 1:100,000 scale residual impact maps were then printed on the graphic printer. These maps were formatted with title blocks, legends, north arrows, and bar scales. Copies were reproduced from originals and distributed to the agencies for review.

Data Tables were developed to quantify and display the maps generated by the impact assessment models. These tabular reports listed the values of initial impacts, mitigation, and residual impacts by milepost along the centerline of each of the study corridor segments. As the centerline of a segment crossed the resource features on a map, the milepost and length of data encountered was reported. The reporting process also recorded the three values assigned by matrices in the impact assessment models by milepost.

The Data Tables provided the following information in a tabular report for each link:

Field 1	indicates the beginning milepost of a feature on the resource inventory map, and also indicates a change in category from the pre-assessment model (e.g., weak contrast to strong contrast). Each study corridor link starts at milepost 0.0
Field 2	indicates the ending milepost of a feature on the resource inventory map or a change in map category from the pre-assessment model
Field 3	indicates the length in miles of a feature on the resource inventory map or a map category from the pre-assessment model
Field 4	indicates pre-assessment models levels (e.g., ground disturbance access levels, percent change of public accessibility, or visual contrast levels) that occurs between the mileposts indicated in Fields 1 and 2
Field 5	indicates the resource feature, value, or viewshed distance zone that occurs between the mileposts indicated in Fields 1 and 2
Field 6	indicates the initial impact level that occurs between the mileposts indicated in Fields 1 and 2
Field 7	indicates the mitigation measures or combination of measures that would be applied between the mileposts indicated in Fields 1 and 2
Field 8	indicates the residual impact level that occurs between the mileposts indicated in Fields 1 and 2
Field 9	lists comments, indicates viewpoints, and/or describes specific circumstances

Several additional reports were generated to summarize resource data by route segment. Selected resource inventory data were aggregated from the centerline Data Tables into reports that listed by route segments:

- miles of sensitive species habitat (e.g., pronghorn) or species buffers zones (e.g., sage grouse leks)
- miles of land use features (e.g., range allotments, mining claims, etc.) crossed
- number of features (e.g., residences, ferruginous hawk nests, etc.) within a particular distance from the assumed centerline
- miles of landcover types crossed
- miles of visually sensitive areas crossed (e.g., VRM classes, scenic quality, etc.)

- miles of ground disturbance levels, public access levels, or visual contrast levels crossed

- total estimated construction costs

In addition, summary reports of potential impacts (by level) were also generated for route segments. These reports provided data used in the comparison of impacts in the subroute evaluation and ultimately in the comparison of alternative routes. Selectively committed mitigation measures were also summarized in terms of the total miles of each measure recommended for each route segment.

Constructing Alternative Routes

Over 140 alternative routing segments or "links" were identified and studied in detail for the SWIP DEIS/DPA. NEPA requires that "reasonable and feasible" alternatives be compared in an DEIS/DPA. The number of possible routing alternatives that could be assembled from the numerous links would easily number in the hundreds, and would be unreasonable to compare in a DEIS/DPA. Subsequently, it was necessary to determine environmental preferences for localized routing alternatives. To facilitate this, the subroute evaluation process was developed.

Subroute Evaluation Process

The link or combination of links selected as the environmentally preferred subroute was used to develop alternative routes. Major routing alternatives, or links in areas where no other localized alternatives occurred, are termed "connectors". Connectors combined with the link combinations selected in the subroute evaluation process were used to assemble the alternative routes.

Though the number of routing alternatives was greatly reduced by the subroute evaluation process, there were still too many alternative routes to reasonably compare in the DEIS/DPA. The environmentally preferred subroutes and their associated connectors were further evaluated through a GIS process that determined the preferred route for each resource (e.g., biology, visual). This process (described later in this section) assisted project planners in determining the alternative routes compared in the DEIS/DPA.

Methods - Each subroute set is composed of individual links or combinations of several links that begin and end at common junction points in localized areas. The areas highlighted in gray in Figure OBJ-10 illustrate the general locations of the 24 subroute sets evaluated in this section.

A set of subroute evaluation forms was developed to facilitate the subroute analysis and to document the results of the subroute selection process (refer to Appendix D in the DEIS/DPA). Each subroute set is illustrated on a separate evaluation form. These forms

contain a diagrammatic illustration of the links that compose each subroute set, a summary table with the mileage of potential impacts for each subroute (H = High, M = Moderate, and L = Low), and a graphic ranking scale by resource (e.g., biology, cultural, etc.).

The potential impacts of each subroute within a set were summarized from detailed impact assessment/mitigation planning process data for the five major resource disciplines: biology, earth, visual, land use, and cultural.

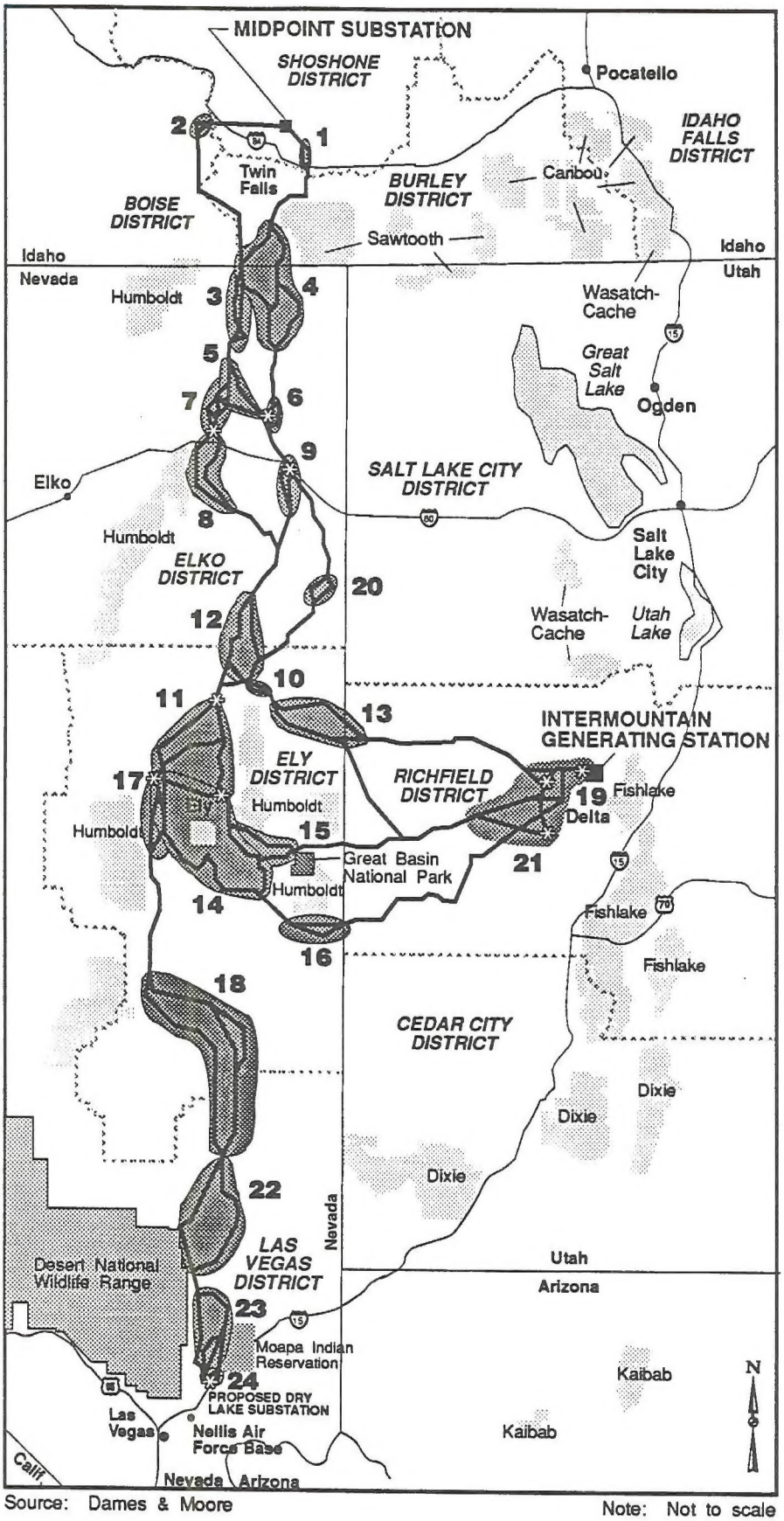
In addition to analyzing and comparing the numeric impact data, project planners and resource specialists ranked each subroute within a subroute set based on their knowledge of the study corridors and the issues and concerns expressed by agencies and/or the public. The values on the graphic scale range from 1 (least favored) to 10 (most favored). Each subroute evaluation form documents the ranking of each subroute for each of the five resource disciplines indicated on the graphic scale. Project planners determined the environmentally preferred subroute within a set by considering the ranks assigned by resource specialists.

Results - The results of the subroute evaluation and selection process are summarized in this section. The subroute evaluation forms are also included at the end of this section.

Subroute Set 1 - Subroute 1a (Link 20) would pass adjacent to the new Minidoka Relocation Center historic interpretive site resulting in significant visual impacts to views from this site (refer to the photo simulation in the Map Volume). However, Subroute 1b (Link 30) would result in direct physical impacts to farm structures at a feedlot operation and to wheel-line irrigation systems. To meet the National Electrical Safety Code several farm buildings would have to be removed or relocated. Subroute 1a is the preferred subroute because committed mitigation would reduce or offset the visual impacts to the historic interpretive site. In addition, the proponent has committed to offsite mitigation related to the development of the interpretive facilities, in coordination with Bureau of Reclamation.

Subroute Set 2 - Subroute 2a (Link 62) would minimize potential visual impacts to the proposed Hagerman Fossil Beds National Monument visitor's center. Subroute 2b would traverse the northwest boundary of this national monument. By using a strip of BLM land called Dickey Bird Lane, this subroute would also avoid potentially direct conflicts with agricultural irrigation systems in the area and minimizes the skylining of towers visible from within the national monument. For this reason, the subroute 2a is the environmentally preferred.

Subroute Set 3 - Because Subroute 3b (Links 70, 72, 101, 102, 110) would result in the fewest construction effects to sage grouse leks and wintering areas and would parallel the Upper Salmon to Wells 138kV and Midpoint to Valmy 345kV transmission lines, it is environmentally preferred. Six of the seven other subroutes in this set would result in direct and indirect impacts to sage grouse leks. Subroute 3d may be a somewhat better crossing of U.S. Highway 93, however, this subroute would pass adjacent to two rural residences, and Link 711 would result in impacts to sage grouse leks.



LEGEND

- ALTERNATIVE CORRIDORS
- BLM District Boundaries
- Forest Service Boundaries
- Alternative Substation
- Subroute location
- 21 and set number

Source: Dames & Moore

Note: Not to scale

Subroute Location Map

Dames & Moore

Figure OBJ-10

Subroute Set 4 - Similarly, because Subroute 4c (Links 40, 50, 70, 72, 91, 92) would result in the fewest construction effects on sage grouse leks and wintering areas and would parallel more miles of existing transmission lines than other subroutes, it is environmentally preferred. Subroute 4d would cross Salmon Falls Creek downstream from the two existing transmission line crossings. The other two subroutes in this set would result in greater impacts to sage grouse and more visual impacts to recreationists.

Subroute Set 5 - Subroute 5a would result in visual impacts to the Winecup Ranch in Thousand Springs Valley and higher impacts to sage grouse. Subroute 5b (Links 160, 161, 162, 1612) is environmentally preferred because it avoids visual impacts to views from the Winecup Ranch in Thousand Springs Valley and would result in the fewest potential impacts to sage grouse leks and habitats. Subroute 5c would result in impacts similar to Subroute 5a, but is longer and would affect more previously undisturbed areas.

Subroute Set 6 - Subroute 6a (Link 142) was selected because it would result in fewer potential impacts to sage grouse leks and wintering areas. Subroute 6b would directly impact a known cultural site.

Subroute Set 7 - Subroute 7d (Links 162, 1611, 166, 167, 1613) is environmentally preferred because it would parallel the Upper Salmon to Wells 138kV transmission line and would result in the fewest impacts to sage grouse. Subroutes 7a and 7c would result in higher impacts to critical sage grouse habitats.

Subroute Set 8 - Subroute 8b (Link 180) is environmentally preferred because it would avoid visual impacts to Wells, Nevada, and result in fewer impacts to known cultural sites.

Subroute Set 9 - Subroute 9a (Link 211) is environmentally preferred because it would be backdropped by the Pequop Mountains and provide a less visually intrusive crossing of Interstate 80, a BLM low visibility corridor. Subroute 9b would utilize the railroad corridor. However, concerns have been expressed for potential impacts to views from a ranch residence on the western edge of Goshute Valley.

Subroute Set 10 - Both subroutes would result in significant impacts to cultural resources in the Shell Creek Range. Subroute 10a (Link 263) is the environmentally preferred subroute because overall it would result in somewhat fewer miles of impacts.

Subroute Set 11 - Both Subroute 11b (Links 291, 293, 300) or Subroute 11d (Links 291, 293, 310) are environmentally acceptable. The BLM has expressed concerns for wildlife impacts and a watering area where Subroutes 11a and 11c would cross through Antone Pass area. Subroute 11e would result in significant and unavoidable direct impacts to wetlands area around Bassett Lake northwest of McGill, Nevada.

Subroute Set 12 - Subroute 12a would have fewer moderate impacts to views from U.S. Highway 93 and would cross fewer miles of erosive soils. However, Subroute

12b (Links 250, 259, 260) is environmentally preferred because it would avoid a potential direct impact to a known cultural site.

Subroute Set 13 - Subroute 13a (Links 266, 620, 621) is preferred to Subroute 13b (Links 610, 611) because it could be used for both the Cutoff and Direct Routes. The BLM has expressed concerns that Subroute 13b would result in adverse visual impacts to the Blue Mass Scenic Area. Subroute 13a would result in some potentially high impacts to bald eagles and sage grouse.

Subroute Set 14 - Subroute 14b (Links 320, 350, 351, 352, 370, 390, 410) is environmentally preferred because it would parallel the Gondor-IPP and Gondor-Pavant 230kV transmission lines for most of its length. Subroutes 14a and 14c would result in potentially high impacts to ferruginous hawks in Jakes Valley and would impact sensitive soils and cultural sites.

Subroute Set 15 - Subroute 15a (Link 380) is environmentally preferred because it would parallel the Gondor-IPP and Gondor-Pavant 230kV transmission lines through Cooper Canyon in the Humboldt National Forest. Subroute 15b would impact views from U.S. Highway 93, a designated scenic highway, through Conners Pass and from Majors Place.

Subroute Set 16 - Subroute 16a (Link 430) is environmentally preferred largely because it would be considerably shorter. Subroute 16b would avoid some moderate visual impacts to views from a ranch headquarters, but would result in some potentially high impacts to a ferruginous hawk nest.

Subroute Set 17 - This subroute set occurs in the Robinson Summit area west of Ely, Nevada, an alternative substation location. Subroute 17c (Links 340, 362, 363) is environmentally preferred because it would largely avoid impacts to ferruginous hawk nests and habitat in Jakes Valley. Subroute 17e would result in more impacts to ferruginous hawks. The final decision of a subroute in this set may depend on the selection of the substation site.

Subroute Set 18 - Either Subroute 18a (Links 672, 674, 675) or Subroute 18b (Links 672, 673, 675) is environmentally acceptable. Subroute 18a would cross near Bristol Well near a significant cultural site in an historic mining district. Subroute 18c would conflict with military aircraft operations from Nellis AFB. Also, the BLM has expressed a desire to maximize the use of the utility corridor in Dry Lake Valley (Subroutes 18a or 18b).

Subroute Set 19 - Subroute 19b (Links 510, 560, 571, 572, 580, 581, 582) is environmentally preferred because it would parallel the existing IPP-Adelanto 500kV transmission line through the Delta, Utah area. Subroute 19a would potentially result in direct conflicts with agricultural uses west of Delta. Subroute 19b is the preferred routing approach to connect Sevier substation site (refer to Appendix E of the DEIS/DPA).

Subroute Set 20 - Subroute 20a (Link 224) is environmentally preferred because it would be a better crossing of U.S. Highway 93 Alternate near Ferguson Mountain, minimizing visual impacts to views from this highway.

Subroute Set 21 - Subroute 21a (Links 470, 550, 560, 571, 572, 581, 582) was selected as environmentally preferred because it would parallel the 230kV transmission line corridor and join the 500kV transmission line. This subroute would provide connections to three of the four alternative substation sites in the vicinity of Delta. Subroutes 21c and 21e would result in greater potential conflicts with agricultural operations. Subroutes 21b and 21c would be used only if the alternative substation site located in the Sevier substation siting area was selected (refer to Appendix E of the DEIS/DPA).

Subroute Set 22 - Subroute 22a (Link 690) was selected as environmentally preferred because it would parallel the Lincoln County Coop 69kV transmission line and utility corridor and would also minimize visual impacts to a portion of the proposed Kane Springs Backcountry Byway. Nellis AFB has expressed concerns for Subroute 22b because it would conflict with military aircraft operations in Kane Springs Valley and the Delamar Mountains.

Subroute Set 23 - This subroute set is described in Chapter 2 as the Moapa alternatives. Subroute 23a (Link 720) through Coyote Spring Valley is environmentally preferred because it would avoid significant impacts to cultural sites and visual impacts to high sensitivity recreation viewpoints. The high cultural impacts in this area is from a traditional cultural use zone with some sacred elements, although no specific locales are known. Representatives of the Moapa Band of the Paiute indicate a higher level of concern for the northern and northeastern end of the Arrow Canyon Range, which would be crossed by Subroutes 23b, 23c, or 23d. The potential to mitigate the known archaeological sites along Subroute 23a (Link 720) seem quite high. It is uncertain if the traditional cultural use area along this subroute could be effectively mitigated. Several cultural sites, including a rock art and rockshelter sites are located on the northeastern end of the Arrow Canyon Range. These sites have archaeological significance and importance to the Moapa Paiute community as well. Because the significance of these sites is likely to extend beyond their simple information potential, the possibilities for developing acceptable mitigation measures are lessened. Also, these sites are well known and impacts from visual intrusion or increased public accessibility could be very significant.

The BLM has expressed concerns for potential impacts to Category I desert tortoise habitat along Subroute 23a (Link 720) Coyote Spring Valley and Hidden Valley (approximately 15.4 miles crossed) and visual impacts in a VRM Class II area to views from U.S. Highway 93. Although Subroute 23a would result in a greater number of moderate impacts to visual and cultural resources, Subroutes 23b, 23c, and 23d would result in high visual impacts to recreationists on the east side of the Arrow Canyon WSA and to a proposed interpretative trail in the area. These subroutes would all cross 2.1 miles of Category I desert tortoise habitat and 9.6, 15.5, and 16.8 miles of Category II habitat respectively.

However, despite the crossing of more Category I habitat by Subroute 23a and the culturally sensitive zone, it is the preferred location through this area because of the existing impacts to the desert tortoise and the potentially greater significance of cultural sites on Subroutes 23b, 23c, and 23d. The proximity of Subroute 23a to U.S. Highway 93 lessens the potential impacts to desert tortoise even though the densities are higher in the Coyote Springs Valley (Link 720).

Subroute Set 24 - Subroute 24a is environmentally preferred because it would avoid crossing a portion of the Old Spanish Trail/Mormon Road and would be a better crossing of Interstate 15. A decision on this subroute would depend on the route selected for the Marketplace-Allen Transmission Project (MAT) proposed by the Nevada Power Company, a proposed 500kV transmission connection from the Dry Lake/Harry Allen substation area to the Mead/McCullough Substation area. The MAT could potentially travel along two major routes south of the Dry Lake Valley area. The first would cross straight south through the Apex development, turn southeast toward the Gypsum Wash area, and then south again through the Sunrise Mountain area and Henderson. The second would cross Interstate 15 on the north end of the Dry Lake range and cross straight south to the Sunrise Mountain area and Henderson. Therefore, the selection of Subroute 24a would only be valid if either substation sites 18 or 20 are selected and the MAT is routed around the north end of the Dry Lake range and south to the McCullough area. If the MAT is routed the other way, a selection of a subroute from this set is unnecessary. The current status of the Sunrise Mountain area as a WSA would preclude a right-of-way grant through the area without a change in its status by the U.S. Congress.

Resource Preferred Routes

The environmentally preferred subroutes and their connectors were further evaluated in a GIS process that determined the "path of least resistance" (least impact) for a particular resource (e.g., visual). The GIS searched the database containing the results of the impact assessment for a particular resource and tabulated the values and mileage of impacts along all the possible combinations of route segments searching for the route that would result in the least number of miles of significant impacts to that resource.

The identification of preferred routes for visual, biology, land use, earth, and cultural resources determined by the GIS processing assisted project planners to assemble eight alternative routes from Midpoint Substation to Dry Lake and four alternative routes from Ely to Delta for comparison in the DEIS/DPA.

Substations and Series Compensation Stations

The substation and series compensation station study was conducted as part of the environmental studies for the proposed SWIP. The following section contains a brief

description of the proposed facilities, the inventory, the facilities siting process, and the impact assessment and mitigation planning process.

To facilitate the siting of substation and series compensation facilities, ten general siting study corridors were identified. The locations of these siting areas were determined by the electrical and interconnection needs of the transmission line, environmental constraints and the locations of routing alternatives.

Three siting areas for a new substation were identified in the vicinity of the Intermountain Generating Station near Delta, Utah to provide an interconnection for the crosstie route from Ely, Nevada, to Delta, Utah. Three siting areas were also identified for a new substation in the vicinity of Ely, Nevada, to provide an open marketplace substation. One siting area, located in Dry Lake Valley, northeast of Las Vegas, Nevada, was identified for the southern terminus of the SWIP. In addition, three alternative siting areas were identified for a series compensation station in central Elko County, Nevada. Alternative sites were identified within each of these siting areas using environmental and engineering constraints.

Generally, the purpose of a **substation** is to interconnect electrical transmission lines of similar or different voltages in to the transmission grid. Substations enable utility companies to reliably deliver electrical energy from generating facilities (resource) to consumers (load) by directing the flow of power within the transmission grid.

The site for a 500kV substation would require approximately 80 acres. Typical equipment at a substation includes: transmission line take-off structures, power circuit breakers, power transformers, switches, buswork, control house, microwave communications equipment, and other associated controls and instrumentation. The illustration at the top of Figure OBJ-11 shows an elevation of a typical 500kV substation. Though substations cannot absolutely control the flow of energy on a transmission grid, switching operations at individual substations can change the configuration of the grid to influence energy flows and voltages on the transmission grid.

The primary function of a **series compensation station** is to minimize adverse voltage conditions on long transmission lines. Excessive variation in voltage can cause conditions that can have detrimental effects on electrical equipment operated by energy consumers. The series compensation station maintains the stability of receiving-end voltages within the desired limits. The series compensation station is similar to a substation facility in that it can also provide a point of interconnection and has some switching capability.

A series compensation station typically requires a site of between 15 to 20 acres, but can be as large as a substation. Series compensation station equipment consists of electrical towers, high voltage series capacitor banks, switching equipment, and bus conductors. The series capacitor electrical equipment is composed of several banks of capacitor cans and bypass circuit breakers mounted in structural steel racks supported on insulators. This facility is called a series compensation station because the capacitor banks are connected in series with the transmission line to electrically reduce the line's inductance. The result is more efficient energy flow. The illustration at the bottom of Figure OBJ-11 shows an elevation of a typical 500kV series compensation station. Also see Appendix E for site forms and tables.

The substations and series compensation station associated with the proposed project would be unmanned. Switching operations and the control of other electrical equipment within these facilities would be done from a remote operations center using microwave or fiber optic communications.

Inventory

This section summarizes the inventory methods and results for the resource studies conducted for the substation and series compensation station siting areas.

Methods - Resource data were inventoried and mapped within each of the ten substation and series compensation station siting areas described in the introduction to facilitate assessing potential impacts from the construction and operation of these facilities. Data were collected during the summers of 1989 and 1990 from agencies and verified by field reconnaissance and aerial overflights of the areas.

Results - The inventory identified, mapped, described, and documented environmental resource data for, biological, earth, land use, visual, and cultural resources, for each of the substation and series compensation siting areas. The results of this inventory are briefly summarized in the following sections by state and by resource.

Idaho

Currently, no substation or series compensation station siting areas are proposed for areas in Idaho.

Nevada

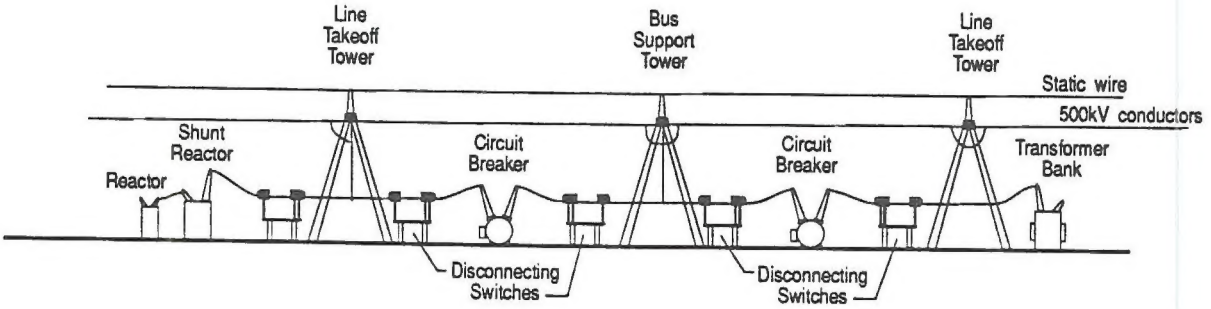
U.S. Highway 93 Series Compensation Station Siting Area

Land Use - This siting area covers a portion of Bishop Creek and Town Creek Flat along the U.S. Highway 93 corridor between HD Summit and Interstate 80. The area encompasses all or portions of Links 165, 166, 168, 169, 170, and 180. Land jurisdictions within this siting area consist of a checkerboard pattern of BLM lands administered by the Elko District office and private lands.

The primary land use is range in the areas around the Windermere Hills and into Town Creek Flats. The siting area covers portions of the HD, Bishop Flat, Town Creek, Holborn, Moor Summit Cedar Hills, and Wells grazing allotments.

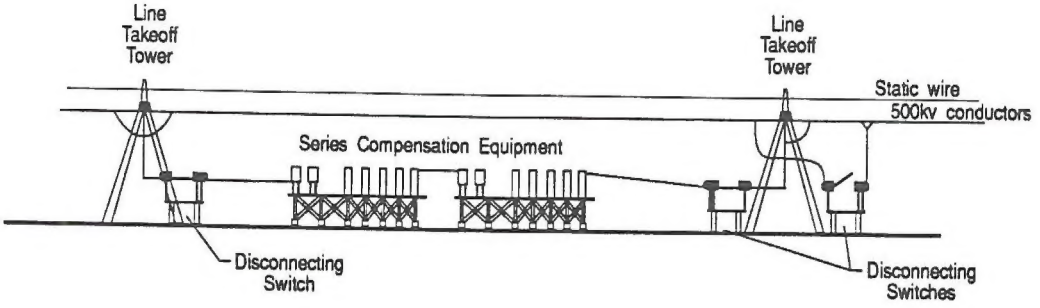
The Upper Salmon to Wells 138kV transmission line roughly parallels U.S. Highway 93 through this siting area (Links 1611, 166, 167, 1613, 170). There is a roadside rest area,

Typical Elevation of 500kV Substation



NOTE: Illustration for graphics representation only, not approved for construction.

Typical Elevation of a Series Compensation Station



NOTE: Illustration for graphics representation only, not approved for construction.

Substation and Series Compensation Facilities

without facilities, at HD Summit. Interstate 80 crosses the southern end of the siting area just east of Wells, Nevada. There were no recreation land uses identified within this siting area.

Biology - The siting area is generally composed of Great Basin sage scrub with lesser contribution by Great Basin grassland. The only sensitive wildlife species known to occur near the site is sage grouse. No sensitive plant species were identified in this siting area.

Earth - The siting area consists largely of alluvial soils eroded from surrounding mountains and hills and deposited in basin areas. Much of the siting area has high hazard of water erosion. The Windermere Hills are deeply dissected by intermittent streams. There are a few areas in the basin where shallow ground water may be of concern. There were no known fossil localities identified within this siting area.

Visual - The visual resources inventory identified areas of Class B scenery in the Windermere Hills that are managed with VRM Class III. Interstate 80 has been designated as a "low visibility" corridor by the Wells Resource Management Plan and is managed with VRM Class II. The scenic quality of the majority of the southern half of the area is Class C.

Town Creek Flats, most of the southern half of the area, is openly visible from both Interstate 80 and U.S. Highway 93. In addition, this area is also visible in the middleground and background from residences and other viewpoints in the vicinity of Wells.

Cultural - The California Immigrant Trail crosses Town Creek Flats north of Wells. The siting area contains a portion of a historic railroad, several pre-historic isolates and lithic scatters.

Thousand Springs Series Compensation Station Siting Area

Land Use - This siting area is located in the center of Toano Draw. It contains the site of the formerly proposed Thousand Springs Power Plant (near Link 144). The boundary encompasses all of Links 142, 143, 144 and 152, and portions of Links 151 and 1612. Land jurisdiction is a checkerboard pattern of public (Elko District of BLM) and private lands.

The primary land use is range. The siting area covers portions of the HD and Big Springs grazing allotments. There are several major well developments including File Mile Draw Well, Toano Well No. 1 and Well No. 2. Other range improvements include corrals and water tanks. The area is accessed by several graded, graveled roads that are used by ranchers in the area. No paved roads access this siting area. There were no recreation land uses identified within this siting area.

Biology - The siting area is dominated by grassland broken by areas of Great Basin sage scrub and bare or sparsely vegetated land. Pronghorn antelope are the only wildlife species of concern known to occur in the siting area. No sensitive plant species were identified in this siting area.

Earth - Toano Draw is a major intermittent drainage that contains alluvial deposits eroded from nearby mountains and hills. Medicine Creek, Deadman Creek, and numerous other intermittent streams drain into Toano Draw. Because of the vast area of alluvial deposits, much of this siting area has a high hazard of water erosion. There were no known fossil localities identified within this area.

Visual - The scenic quality of flat, open sparsely vegetated landscape of Toano Draw was inventoried as Class C. The entire siting area is managed with VRM Class IV by the Elko District of the BLM. Although no sensitive viewpoints were identified in the inventory, the only visual contrasting elements in the landscape of this siting area are the windmills of several wells and the paths of several primitive roads.

Cultural - The only known cultural resources identified in the siting area are pre-historic isolates and lithic scatters.

Goshute Valley Series Compensation Station Siting Area

Land Use - The southern boundary of this siting area is located about two miles northeast of the community of Oasis, Nevada. The area encompasses all of Link 221 and portions of Links 200 and 211. Land jurisdiction is a checkerboard pattern of public (Elko District of BLM) and private lands.

The primary land use is range. The siting area covers a portion of the Big Springs grazing allotment. There were no recreation land uses identified within this siting area.

The community of Oasis is located at the junction of Nevada State Highway 233 and Interstate 80. The state highway bisects the siting area from southwest to northeast. The Nevada Northern Railroad runs along the eastern edge of the siting area.

Biology - The siting area is dominated by Great Basin sage scrub broken by areas of grassland and bare or sparsely vegetated soil. Sage grouse habitat occurs throughout most of this siting area.

Earth - Similar to the other siting areas, this area of the Goshute Valley is largely composed of alluvial deposits eroded from nearby mountains. East Squaw Creek and several other intermittent streams occur within this siting area. There were no known fossil localities identified within this siting area.

Visual - The scenic quality of vast, flat, sage scrub covered, landscape of Goshute Valley was inventoried as Class C. The entire siting area is managed with VRM Class IV by the Elko District of the BLM. The siting area is openly visible to views from Nevada State Highway 233 between Oasis and Cobre. In the flat expanse of Goshute Valley, much of the siting area is visible in the background from residences in Oasis and adjacent to Interstate 80.

Cultural - A pre-historic antelope trap, a portion of a historic railroad, a historic ranch and community, and pre-historic isolates were identified within the siting area.

North Steptoe Substation Siting Area

Land Use - This siting area is located in the northern part of Steptoe Valley a few miles southwest of the junction of U.S. Highway 93 and U.S. Highway 93A near Lages Station and encompasses the intersection of Links 243, 260, 261, and 262. The lands within this siting area are administered by the Ely District of the BLM.

Currently, the primary land use in this siting area is range, and it covers portions of the Cherry Creek and Becky Creek grazing allotments. Also, the proposed WPPP is located within the area. U.S. Highway 93 crosses from north to south through the eastern half of the siting area at the toe of the Schell Creek Range. There were no recreation land uses identified within this siting area.

Biology - This site is characterized by a mix of grassland, sparsely vegetated soils and Great Basin sage scrub. Portions of the siting area are known habitat for ferruginous hawks. There are also known sage grouse leks in the sage scrub areas in Steptoe Valley.

Earth - The site is composed largely of alluvial deposits that accumulated as streams eroded the Schell Creek Range and washed into the valley. Two small intermittent streams occur in this area. There is also some potential for the occurrence of shallow ground water. The fine alluvial deposits in the valley are prone to a high hazard of wind erosion. There were no known fossil localities identified within this siting area.

Visual - The scenic quality of the northern Steptoe Valley was inventoried as Class C and is managed with VRM Class III by the Schell Resource Area of the Ely District of the BLM. Views from U.S. Highway 93 are open into the valley and are backdropped by the Cherry Creek Range in the eastern half of the siting area.

Cultural - There were no known high sensitivity cultural sites identified within this area.

Robinson Summit Substation Siting Area

Land Use - The siting area is located at the northern end of Jakes Valley, northwest of the Ely area and encompasses portions of Links 300, 310, 320, 331, 340, 350 and 660. The lands within this siting area are administered by the Ely District of the BLM.

The area's primary land use is range, covering portions of the Thirty Mile Spring, Moorman Ranch, and Tom Plain grazing allotments. A water tank is located just north of the U.S. Highway 50.

U.S. Highway 50 crosses from east to west along the northern edge of this siting area. An airstrip indicated on the USGS map adjacent to the highway in this area was later found to be a road material stockpile area used by the Nevada Department of Transportation. The

Gondor to Machacek 230kV transmission line bisects the siting area from east to west, paralleling Links 320 and 350 within the siting area. No recreation land uses were identified within this siting area.

Biology - This site has a mix of grassland, Great Basin sage scrub, and sparsely vegetated ground. The foothills south of the highway are covered with juniper. Sage grouse, pronghorn antelope, and possibly mule deer occur in this area.

Earth - The lower portions of this siting area are composed of alluvial deposits washed down from surrounding mountains and hills. Some of the hills on the eastern and southern side in this area have high mineral potential. The alluvial soils in the valley are prone to high hazard of water and wind erosion. Several small intermittent streams descend from the foothills into this area. There were no known fossil localities identified within this siting area.

Visual - The scenic quality of the rolling juniper-covered hills was inventoried as Class B and the flat sage scrub areas as Class C. This siting area is managed with VRM Class III by the Ely District of the BLM. The northern half of this siting area is visible from U.S. Highway 50. However, the southern half of this siting area is not visible from sensitive viewpoints.

Cultural - There were no high sensitivity sites identified within this siting area.

Hercules Gap Substation Siting Area

Land Use - The siting area is situated in the Steptoe Valley north of McGill and Ely, Nevada, and encompasses all of Links 351 and 352 and portions of Links 292, 350 and 370. Lands within this siting area are predominantly administered by the Ely District of BLM, but with occasional small private inholdings.

The primary land use is rural agriculture and range. The siting area covers portions of the Cooper Flat/West Schell Bench, Heusser Mountain, and George Town Ranch grazing allotments.

The Ely Maximum Security Prison is located west of Hercules Gap in Smith Valley. U.S. Highway 93 and Gondor Substation are located at the east end of the siting area.

There are several residences located in Smith and Steptoe Valleys, and there is a rural subdivision southwest of the siting area. No recreation land uses were identified.

Biology - The Hercules Gap siting area is dominated by grasslands, with Great Basin sage scrub and grassland on upland sites. Sage grouse wintering areas and leks, sandhill cranes, long-billed curlews, and bald eagles are also found in the area.

Earth - The valley bottoms in Smith and Steptoe Valleys are largely composed of alluvial deposits washed into the valley from surrounding mountain ranges. The alluvial soils of the valley have a potential for high hazard of water and wind erosion. Steptoe Creek, Murray

Creek, and several other minor intermittent streams traverse the siting area. There are a few areas with potential for shallow ground water. Irrigated farmlands in this area are considered to be prime farmland. The Hercules Gap area has a high mineral potential. However, there are no known fossil localities identified.

Visual - The scenic quality in the vicinity of Hercules Gap and into Smith Valley was inventoried by BLM as Class B. However, other portions of the siting area are considered Class C. These areas are managed by the Ely District of the BLM as VRM Class III and Class IV. Most of the siting area is visible from rural residences in Smith and Steptoe valleys, and from U.S. Highway 93.

Cultural - The cultural inventory identified historic and pre-historic isolates and lithic scatters within this siting area.

Dry Lake Substation Siting Area

Land Use - The siting area is located in Dry Lake Valley, northeast of Las Vegas. Lands within the siting area are predominately administered by the Las Vegas District of the BLM with a small private land inholding. Nevada Power Company operates the Harry Allen Substation in the southwest portion of the siting area and holds a right-of-way grant for a 6,000 acre generation facility at the west end of Dry Lake Valley.

Existing land uses include several transmission lines and Harry Allen Substation, the Pecos-Reid #1 and #2 230kV transmission lines, and the Utah-Allen 345kV transmission line. In addition, the IPP-Adelanto 500kV DC transmission line and the Navajo-McCullough 500kV transmission line pass through the eastern edge of this siting area. Other land uses include the Union Pacific railroad and portions of the Dry Lake public grazing allotment. No recreation uses were identified.

Biology - The siting area is sparely vegetated, dominated by Mojave Desert Scrub vegetation which consists largely of creosote bush scrub, with isolated areas of saltbush around the Dry Lake Valley playa. Areas of desert tortoise habitat classified as Category II and III occur within the Dry Lake siting area. Bighorn Sheep habitat occurs in the foothills at the northern margins of this siting area in the Arrow Canyon Range.

Earth - This siting area is composed of alluvial deposits washed down from the Arrow Canyon and Dry Lake Ranges. The soils in the sparsely vegetated valley have a high hazard of water and wind erosion. Several small intermittent streams traverse the area. During major precipitation events the playa at the low point of Dry Lake Valley fills with water and has potential for shallow ground water. There are no known fossil localities identified in this siting area. The valley has some potential for oil and gas resources.

Visual - The scenic quality of Dry Lake Valley was inventoried as Class C and is managed by the Las Vegas District of the BLM as VRM Class IV. The siting area is visible from Interstate 15, except the portion that extends into the southern end of the Arrow Canyon Range. Though not located within the boundary of the siting area, U.S. Highway 93 also has

open views into the western end of the siting area. Visually contrasting elements found in the area include Harry Allen Substation and numerous transmission lines.

Cultural - The historic Old Spanish Trail/Mormon Road crosses through this siting area. The historic townsite of Dry Lake has also been recorded. Several known cultural sites were identified in the area including prehistoric lithic scatters and historic isolates. In addition, the Dry Lake Range contains ethnohistoric resources including a Paiute Habitation Area and resource exploitation areas. The Dry Lake railroad siding and townsite are recorded historic sites.

Utah

Smelter Hills Substation Siting Area

Land Use - This siting area is located in an area west of Smelter Hills in the vicinity of Delta, Utah, encompassing portions of Links 520, 560, 571, and 650. Land are predominantly administered by the BLM, with a small portion administered by the State of Utah.

The siting area is primarily open range, covering a portion of the Little Drum grazing allotment. The area is bisected by the IPP to Adelanto 500kV DC and the Gondor to IPP 230kV transmission lines. Access into this area is by unimproved roads (two-track). There were no recreation land uses identified.

Biology - The siting area is composed of a mix of Great Basin sage scrub (usually shadscale rather than sage), grassland, and bare or sparsely vegetated land. "High value" pronghorn antelope habitat occurs in the vicinity.

Earth - The siting area is composed of Lake Bonneville deposits, and there are several minor intermittent drainages. These unconsolidated soils have a potential for high hazard of wind erosion especially in sparsely vegetated areas. There is a high potential for the location of numerous snail and bivalve fossils throughout this area.

Visual - The scenic quality of this area of the West Desert was inventoried as Class C and is managed as VRM Class IV by the Richfield District of the BLM. This area is not visible from sensitive viewpoints.

Cultural - There were no known high sensitivity cultural sites identified within this area.

Sevier Substation Siting Area

Land Use - This siting area is located in the Sevier River Basin southwest of Delta, Utah, and encompasses portions of Links 590 and 600. Lands are predominantly administered by the BLM, with a small portion administered by the State of Utah.

Although range is the primary land use in this siting area, it is of minimal quality. The siting area covers a portion of the Deseret grazing allotment. The Gondor to Pavant 230kV and the IPP to Adelanto 500kV DC transmission line cross the area. This area is remote and accessed only by unimproved roads.

Biology - The siting area is characterized by a mixture of greasewood and shadscale associations. Vegetation density is typically sparse, however, the vegetation on drainage banks can be quite dense.

Earth - This siting area is composed of Lake Bonneville deposits. The northern portion of the siting area encompasses the Sevier River and the Old Sevier River Channel. Several intermittent drainages also occur in the area. Areas in the vicinity are prone to shallow ground water. Although there were no known fossil localities identified, Lake Bonneville deposits often contain numerous snail and bivalve fossils.

Visual - The scenic quality of this area was inventoried as Class C and is managed by the Richfield District of the BLM as VRM Class IV. This area is not visible from sensitive viewpoints.

Cultural - An ethnohistoric habitation area and resource exploitation area was identified in this siting area.

Intermountain Substation Siting Area

Land Use - This siting area is located adjacent to the Intermountain Generating Station, north of Delta and encompasses portion of Links 581 and 582. Approximately half of the lands in this siting area are private, and half are administered by the BLM.

The siting area covers a portion of the Smelter Mountain and McClintock grazing allotments. With the exception of the facilities at the Intermountain Generating Station, the IPP-Adelanto 500kV transmission line, the Gondor-IPP 230kV transmission line, and two water wells, there are few other land uses in this area.

Biology - This site is characterized by a mix of Great Basin sage scrub, grassland, and bare or sparsely vegetated land. There is "high value" pronghorn antelope habitat throughout this siting area.

Earth - The siting area is composed of alluvial deposits, and several small intermittent streams occur. In sparsely vegetated areas, there is a potential of a high hazard of wind erosion. There were no known fossil localities identified.

Visual - The scenic quality of this area was inventoried as Class C and is managed as VRM Class IV by the Richfield District of the BLM. The siting area is openly visible from a paved highway that accesses the Intermountain Generating Station, and to middleground and background views from rural residences in the vicinity. The power plant and transmission lines in the area would weaken visual contrasts.

Cultural - There were no known high sensitivity cultural sites within this area.

Facility Siting Process

This section describes the siting process used to determine the locations of alternative substation and series compensation station sites within each of the siting areas described in the previous section.

Methods - The siting process used opportunity and constraint mapping to identify areas where a substation or series compensation station could feasibly be located. A set of engineering and environmental siting criteria were developed by project engineers and planners:

- a preference for flat sites with slopes of 0 percent to 5 percent
- proximity to improved access (e.g., improved roads, highways, railways)
- avoidance of sensitive environmental resources
  - sensitive plants and wildlife areas
  - sensitive cultural resources
  - incompatible land uses
  - sensitive views or scenic areas
  - streams, flood zones, erosive soils, faults, etc.
  - wetlands

Initially, the data collected and mapped for the inventory were digitized into the Dames & Moore's GIS. The resource features and values in the database were assigned levels of sensitivity based on the potential for adverse effects that would be expected to result from the construction of a facility. Sensitivity mapping for each resource was combined using GIS to generate maps of constraint areas. The GIS model separately determined engineering and environmental constraint areas before being combined to create composite opportunity and constraint maps for each of the siting areas. The composite constraint maps were analyzed to identify potential locations for facility sites where the potential for impacts would be minimized. Through this process one or more alternative sites were identified within each of the siting areas. These alternative sites were then assessed for potential impacts (refer to the subsequent section).

Results - This facility siting process resulted in identifying a total of twenty alternative facilities sites within the ten substation and series compensation station siting areas. The location of each alternative site is shown on the map found on the evaluation forms located in Appendix D of the DEIS/DPA.

Impact Assessment and Mitigation Planning

Each of the twenty alternative facility sites was assessed for potential impacts from the construction and operation of substations and series compensation stations. Because the substation siting process avoided most of the sensitive resource features and values, few significant impacts were identified.

Methods - The GIS impact assessment models quantified the potential impacts that would result from the construction and operation of a substation or series compensation station at each of the alternative sites within each siting area. These models determined the area of a resource feature or value that would be disturbed by each site. The model described the area of disturbance by impact levels (e.g., high, moderate, low, and no identifiable impact) and quantified the impacts in acres. The impact data generated by the GIS models are summarized on evaluation forms at the end of this section. The forms also illustrate the location of the alternative sites and the associated transmission line route segments and a scaled ranking by resource (e.g., biology, cultural, etc.).

Based on its overall rankings, one site was selected within each of the siting areas. The values on the scaled ranking range from 1 (least favored) to 10 (most favored).

The environmentally preferred substation site in the Ely area was determined through a comparison of the sites selected from the North Steptoe, Robinson Summit, and Hercules Gap siting areas. However, final selection of the preferred site depends on the environmentally preferred crosstie route from Ely to Delta. Similarly, the environmentally preferred site for a series compensation station in Elko County was determined by comparing the alternative sites selected from each of the U.S. Highway 93, Goshute Valley, and Thousand Springs siting areas. Again, the final selection of the series compensation station depends on the selection of the environmentally preferred route.

The environmentally preferred site for a substation in the Delta area was determined through an analysis that considered the three alternative routing approaches into the Delta area: Northern, Western, and Southern. Evaluation forms were used to analyze the potential impacts of each alternative substation and the associated transmission line segments. The environmentally preferred site was determined comparing the impacts of the preferred sites from each of the siting areas. The final section of substation site depends on the routing approach selected.

The environmentally preferred site for the southern terminus in Dry Lake siting area cannot be determined at this time because there are two possible routes for the transmission connection south of this area to the McCullough Substation area for the future Marketplace-Allen Transmission Project (MAT) proposed by Nevada Power Company (refer to "Environmentally Preferred Alternative" section in Chapter 2). One route could proceed straight south of substation sites 17, 18, or 19 through the Apex development and then southeast to the Gypsum Wash area before proceeding south through the Sunrise Mountain area and Henderson. The other possible routing alternative would begin at substation sites 18 or 20, proceeding south from the north end of the Dry Lake Range near Interstate 15, and then straight south to the Sunrise Mountain area and Henderson. Therefore, until a routing

decision is made on the MAT, it would be premature to determine which substation site should be selected because this decision would likely be dependent on the MAT route to the south.

The current status of the Sunrise Mountain area as a WSA would prevent the MAT from being routed through this area.

The mitigation planning process recommended measures to minimize the area disturbed by construction activities and to rehabilitate, or restore affected resource features and values. The generic and selectively committed mitigation measures are listed in OBJ-5 and OBJ-6.

Results - Where possible, a preferred alternative site was selected for each of the substation or series compensation station siting areas. In some cases, the selection of an environmentally preferred route determined which site was selected.

The selected sites within each siting area are described below:

- **Highway 93 Series Compensation Station Siting Area** - Alternative Site 1 is the preferred site, if Route D is selected. Although alternative Site 1 is located in a VRM Class III area, it would have fewer effects on views from U.S. Highway 93. Alternative Site 3 would have high potential for impacts to cultural resources. Alternative Site 2 would be more visible to views from U.S. Highway 93.

- **Thousand Springs Series Compensation Station Siting Area** - Alternative Site 5 is the preferred site if Route B or Route C was selected. This site would cause fewer impacts to sage grouse leks and habitat. Alternative Site 4 in the Thousand Springs Series Compensation Station Siting Area is the preferred site if Route A, E, or G is selected.

- **Goshute Valley Series Compensation Station Siting Area** - Alternative Site 6 is the preferred site and could be used by Routes A, B, C, E, F, or G. There is a known cultural site affected by alternative Site 7.

- **North Steptoe Substation Siting Area** - This site is located adjacent to the proposed site for the WPPP.

- **Robinson Summit Substation Siting Area** - Either, alternative Site 9 or 10 would be acceptable. However, because none of the alternative routes pass through this Site 9, Site 10 would be preferred. Both sites would have some potential effects to Ferruginous hawks and both are located in an area managed with VRM Class III.

- **Hercules Gap Substation Siting Area** - Alternative Sites 11 and 12 were eliminated from further consideration because of the potential impacts to the wetlands in the Bassett Lake area that would occur if a route used Link 292. The only other way to access these sites is along Link 350. The additional

transmission line required between Robinson Summit and Hercules Gap (Link 350) would cause unnecessary impact in this area.

- **Dry Lake Valley Substation Siting Area** - Alternative Sites 17, 18, and 20 are difficult to distinguish environmentally when considering all of the important environmental factors and potential impacts. Site 19 is also acceptable, partially because it is near the existing Harry Allen Substation, even though it may potentially cause slightly higher environmental impacts. However, because of the alternative site locations with respect to future transmission connections to the south, Sites 20 would only be appropriate if a route is chosen for the future MAT that would proceed south from the north end of the Dry Lake Range through Site 20 and then through the Sunrise Mountain area and Henderson. Likewise, Sites 17 and 19 would only be appropriate if a route is chosen for the future MAT that would proceed south through the Apex development then cutting southeast to the Gypsum Wash, then south to the Sunrise Mountain and Henderson areas. Site 18 would be an acceptable substation location regardless of how the future southern connection is made and is acceptable environmentally. A portion of the Site 17 is in a potential flood zone, Site 18 has some wind erosion potential, and Site 19 and 20 are within Category II desert tortoise habitat. Even though sites 19 and 20 are within Category II desert tortoise habitat, it is quite likely that any alternative site within this area would have similar concerns for desert tortoise.

Four alternative substation sites were identified in the vicinity of Delta, Utah within the three substation siting areas. Two alternative sites were identified at the Intermountain substation siting area, and one alternative site was identified at each of the Sevier and Smelter Knolls substation siting areas.

Selecting alternative substation sites included evaluating the transmission line connections from the alternative substation site to the Intermountain Generating Station. Impacts for the two parallel 345kV transmission lines required to connect a substation to the power plant are summarized on the forms in Appendix E of the DEIS/DPA.

In addition, each of the alternative Delta substation sites and its associated transmission lines segments was evaluated from three alternative routing approaches: the northern approach beginning at Link 451, the western approach beginning at Link 462, and the southern approach beginning at Link 630. The results of these evaluations are described below by routing approach:

- **Northern Approach** - Alternative Site 14, located adjacent to the Intermountain Generating Station, is the preferred site for this approach. The high visual impacts indicated for Site 14 are associated with the employee apartments at the Intermountain Generating Station. Site 13 would require approximately 3.3 additional miles of two 345kV transmission lines. Alternative Sites 15 and 16 would result in greater overall impacts from additional mileage of two 345kV transmission lines and construction of improved roads to access these sites.

- **Western Approach** - Alternative Site 14, located adjacent to the Intermountain Generating Station, is the preferred site for this approach. The high visual impacts are associated with the employee apartments at the plant. Though the connecting transmission lines for this approach would follow existing transmission line corridors, greater impacts would result for alternative Sites 15 and 16 where two 345kV transmission lines would be needed to connect these sites to the Intermountain Generating Station. In addition, the construction of improved roads to access these sites would disturb a larger area.

- **Southern Approach** - Either, alternative Site 13 or 14 would be acceptable for this approach. Site 13 would require approximately 3.3 additional miles of two 345kV transmission lines. Site 14 is located adjacent to the Intermountain Generating Station. The high visual impacts indicated for Site 14 are associated with employee apartments at the Intermountain Generating Station. Alternative Sites 15 and 16 would result in greater overall impacts from additional mileage of two 345kV transmission lines and construction of improved roads to these sites.

Diagrams at the end of this section illustrate the locations of alternative substation and series compensation station site in relation to associated route segments (links). These diagrams also summarize impacts (e.g., H = high, M = moderate, and L = low) and/or area of disturbance predicted for each site, and associated links. In addition, the ranking for each site is indicated by resource. Also, refer to the Map Volume accompanying the DEIS/DPA for detailed site locations. Table OBJ-7 summarizes the potential impacts for each alternative site.

Microwave Facilities

In the operation of large transmission lines, highly reliable and extremely secure communication circuits are required for protective relaying. The SWIP transmission line would require the use of a microwave system between Midpoint Substation in Idaho and Dry Lake substation in Nevada. In addition to the protective relaying circuits, the microwave system would be used for voice communication, telemetering, and supervisory control and data acquisition (SCADA).

Maintenance of the proposed communication facilities consists of testing, repair, and replacement of the electronic equipment within the building at the communication site. Inspection and maintenance of the building, communication tower, and other equipment usually occurs in the fall and spring of each year. These facilities are unmanned and operate automatically. The buildings are locked and secured, and entry is restricted to appropriate utility personnel.

At the end of the proposed project's life, if the facilities are no longer needed for any existing or proposed projects, the microwave sites would be abandoned. Subsequently, the equipment would be dismantled and removed from the site.

The facilities are described in detail in Appendix F of the DEIS/DPA and are illustrated in Figures OBJ-12 and OBJ-13.

Facility Siting Process - Potential microwave sites were identified through a review of existing maps and by overflights conducted during the environmental studies for the Southwest Intertie Project. Maps of existing developed communication sites were provided by the district offices of the Bureau of Land Management. Sites with existing facilities and undeveloped sites were investigated for the Midpoint to Ely routes in the summer of 1989, and the Ely to Dry Lake routes in the summer of 1990. Because LADWP currently operates a microwave system between Ely and Delta for the Gondor-IPP 230kV transmission line, new microwave sites would not be needed for the Ely to Delta routes.

Initial siting investigations for microwave station sites were carried out by IPCo representatives. Microwave station sites were selected based on the following engineering and operational criteria:

- line of sight between sites (with a specified clearance)
- good access
  - all weather roads most desirable (maximum)
  - helicopter pad (minimum)
- available power source
- sites 35 to 40 miles between stations
- 1/4 acre of relatively flat ground

Inventory

Methods - Data collection at the alternative microwave sites began in the summer of 1989. Location of existing microwave sites, and potential sites for new development were identified during the facility siting process. Environmental studies were conducted as a joint effort between BLM, IPCo, and Dames & Moore representatives. Resource data were collected for each alternative microwave facility using the same methods as described for substation facilities (refer to Appendix F of the DEIS/DPA).

Results - The results of the resource inventories have been organized into five tables (following), one for each resource discipline: land use, visual, biology, earth, and cultural. Table OBJ-8 summarizes the land use inventory and describes the locations of alternative microwave facilities sites. Table OBJ-9 summarizes the agency visual resource management class and scenic quality class for each alternative site. The vegetation type, sensitive plant species, and wildlife are described in Table OBJ-10. The geology and soils, paleontology, and potential mineral resources are described in Table OBJ-11. Table OBJ-12 describes the known cultural resources for each alternative site.

In addition to these tables, there are detailed narrative discussions of the inventory results for each resource study in the technical reports (Volumes II, III, and IV).

The sites at Hansen Butte, Beaver Dam Mountain, Glendale, and Dry Lake would use existing facilities requiring no ground disturbing activities. Subsequently, these four sites were not included on Tables OBJ-8, OBJ-9, OBJ-10, and OBJ-11.

Impact Assessment/Mitigation Planning

The purpose of the impact assessment was to determine the potential adverse effects of the construction and operation of a proposed microwave system facilities. Mitigation recommendations focus on methods to minimize the area of disturbance.

Methods - The impact assessment determined the approximate area of disturbance for each alternative microwave facilities site. The area of disturbance for each alternative site was determined by considering the criteria listed in the facilities siting process. This determination was partially based on the presence or absence of existing access and facilities.

The area of potential disturbance for an alternative site would be greatest where no facilities currently exist and where there is no existing access road, however, this type of facility would be constructed using only helicopters to access the site, therefore the area of disturbance would be expected to be minimal. Consequently, the greatest area of disturbance is more likely to occur at an alternative site where there is no existing access road or existing facilities. The smallest area of disturbance would occur where a new facility would be constructed adjacent to an existing facility.

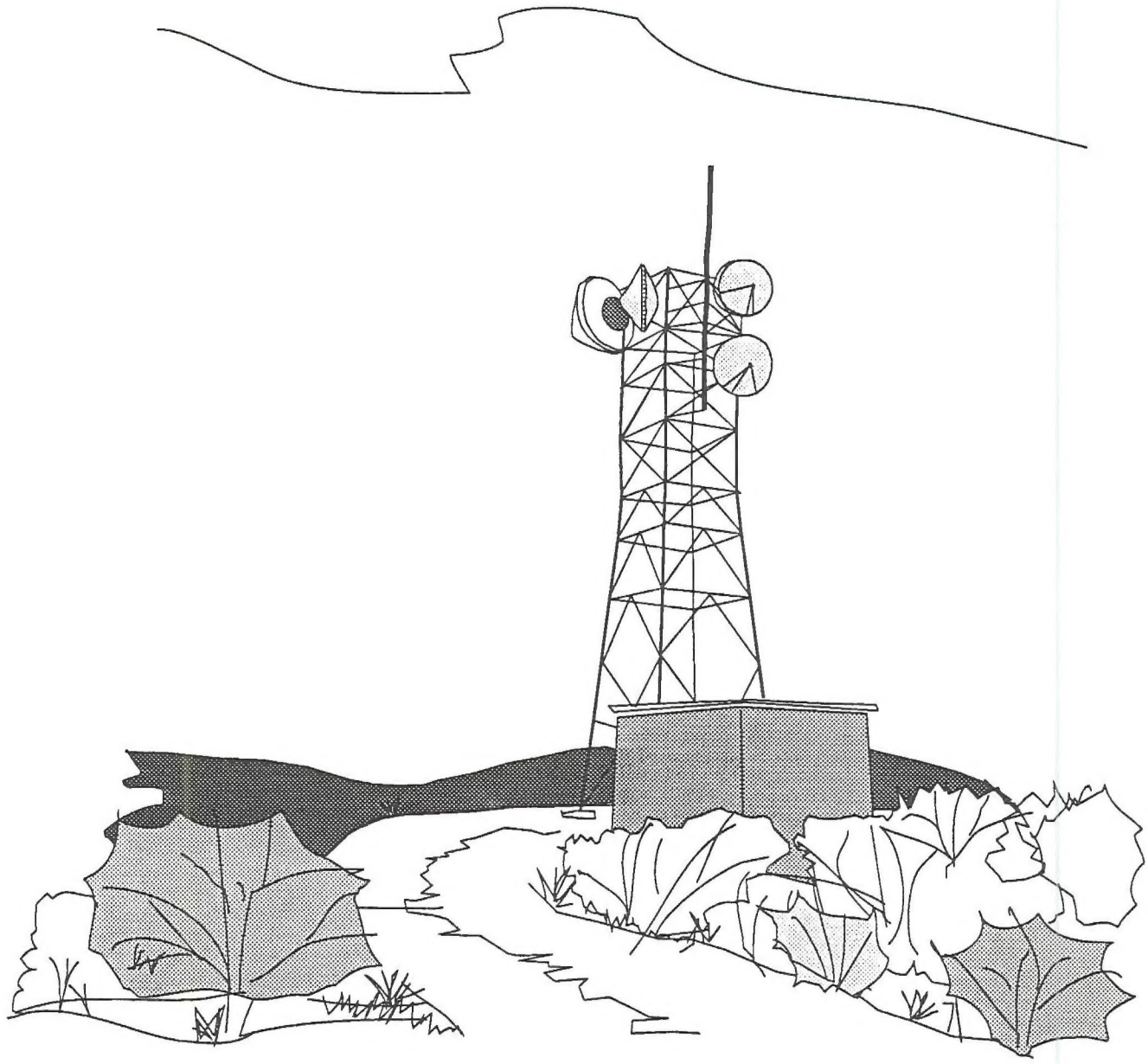
Impacts were assessed for each alternative microwave site based on the area that would be disturbed by construction activities. The level of impact (e.g., high, moderate, low, or no identifiable impact) was determined by the size of the area disturbed and how that disturbance would effect sensitive resource features or values.

Results - The descriptions below generally summarize the potential impacts and mitigation recommendations by resource. Table OBJ-13 summarizes the results of the impact assessments for each resource.

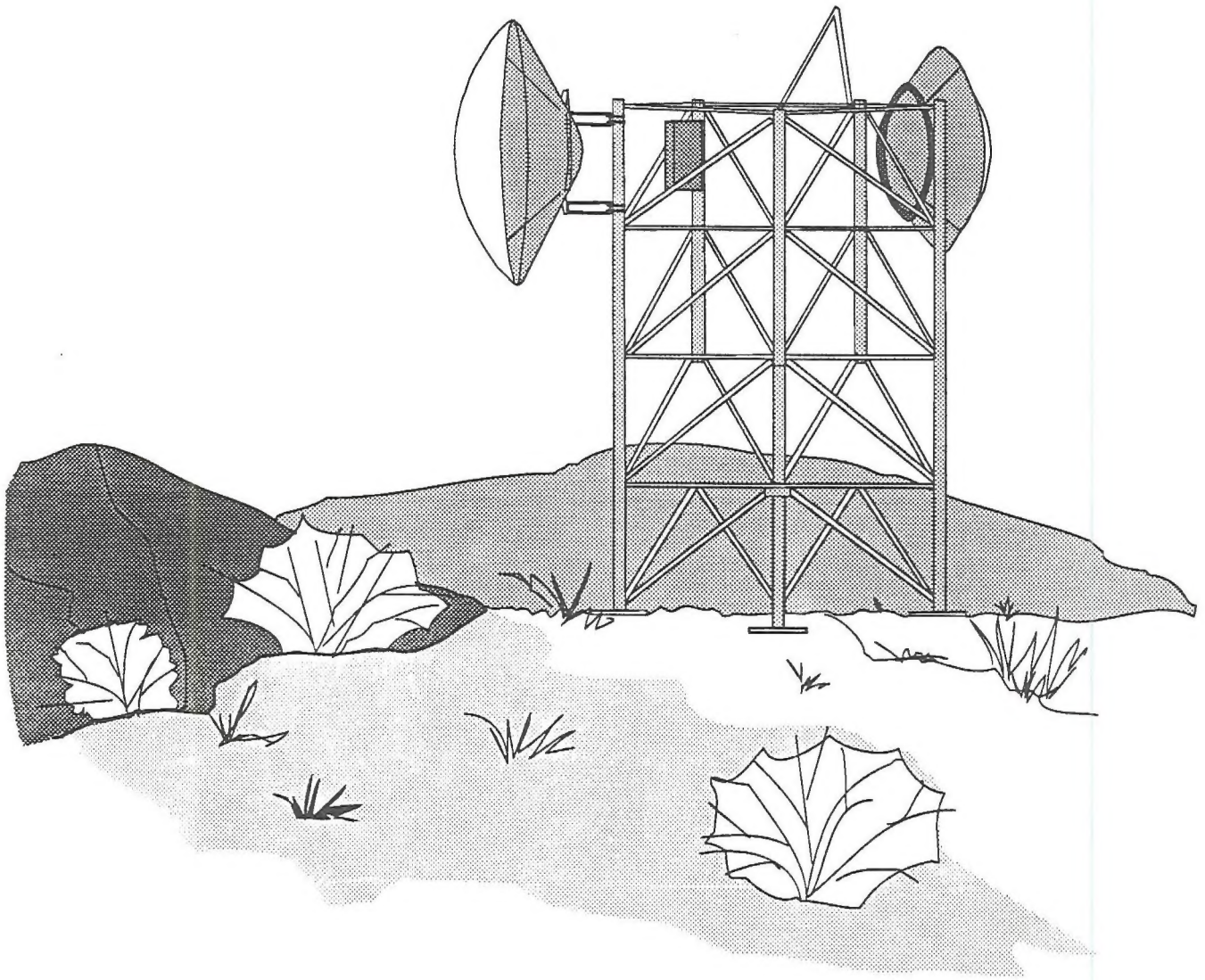
Air Resources - Potential adverse effects would be short-term and are expected to be insignificant. Pollutant emissions from construction activities would be minimized by dust control measures (i.e. water trucks), properly maintained and approved equipment, and proper covering of transport trucks and stock piles to reduce suspended particulates. Pollutant emissions would conform to existing state/federal emissions standards.

Earth Resource - Microwave sites are expected to have only minor impacts on earth resources because of their small area of disturbance. The small disturbance area would minimize potential impacts to paleontological resources. Mitigation measures (e.g. water bars on access roads, revegetation on disturbed areas) is expected to reduce the potential for soil erosion and sedimentation during construction.

Three of the microwave facilities sites, Spruce Mountain, Squaw Peak, and Cave Mountain, would have low impacts to areas with hardrock minerals potential.



Typical Microwave Facility



Typical Solar-powered Microwave Facility

Dames & Moore

Figure OBJ-13

Biological Resource - Development at several of the alternative sites would result in moderate to high impacts to wildlife during construction activities or as a result of improved access. Generally, construction-related impacts can be avoided by restricting construction activities during high activity seasons or avoiding specific activities during sensitive seasons of a species' life-cycle (e.g., breeding season). Impacts resulting from improved access can be reduced by providing gates and/or closing unneeded access roads. Pre-construction field surveys would verify potential areas where threatened and/or endangered species may be affected. Springs and watering holes would be avoided.

Land Use - Potential impacts to existing, planned, and designated land uses were largely avoided during facilities siting. Use of existing access or the construction of new access roads may require rights-of-way. Most existing roads would be adequate with only minor upgrades. Potential impacts to range uses would consist of the long-term loss of less than one-quarter acre of production per site.

Visual Resources - As microwave facilities are typically located on high points, visual impacts can be expected. However, because most proposed microwave sites are not visible from sensitive viewpoints or are located at sites with existing facilities, visual effects are expected to be minimal. Several residences would be able to view the Hansen Butte site near Twin Falls, Idaho and Spruce Mountain adjacent to Ely, Nevada, from a distance of less than one mile. However, because both of these sites have existing facilities, impacts are expected to be low.

Cultural Resources - Cultural resources are only expected to be encountered in those areas where microwave facilities would be located at proposed substations (also refer to Appendix F of the DEIS/DPA, Substation and Series Compensation Stations). Typically, the location of microwave facilities on high points tends to avoid potential conflicts with cultural sites.

There is a greater likelihood for the occurrence of cultural sites in the valleys at the proposed Goshute Valley and Dry Lake substation sites. Potential impacts at these two sites would include moderate impacts associated with the Old Spanish Trail/Mormon Trail, an antelope trap, and several prehistoric and historic sites.

Initially, 16 sites were identified as being possible candidates for the SWIP microwave system. Of these 16 sites, 10 are developed (1 of which require only the addition of a dish) and 6 are undeveloped.

Alternative Communication Paths

Two alternative microwave communication paths have been identified. These alternative paths depend on where the substation near Ely is sited, the North Steptoe site or Robinson Summit site.

The communications path from Midpoint Substation to the Robinson Summit substation site to the Dry Lake substation site would require the development of new microwave facilities at

ten of the alternative microwave sites studied. Of these ten sites, eight sites would be developed at locations adjacent to existing electronic facilities and two of the sites would require new construction on previously undeveloped sites. The specific microwave sites required for each of the paths are listed below, from north to south:

Robinson Summit	**North Steptoe**
Path 1	Path 2
Hansen Butte	Hansen Butte
Cottonwood	Cottonwood
Ellen D	Ellen D
Rocky Point	Six-Mile
Proctor	Spruce Mountain
Bald Peak	Long Valley
Raiff	Copper
Squaw Peak	Cave Mountain
Cave Mountain	Mount Wilson
Mount Wilson	Highland Peak
Highland Peak	

The other path would link Midpoint Substation to the North Steptoe substation site to the Dry Lake substation site and would require the development of new microwave facilities at eleven of the alternative microwave sites studied. Of these eleven sites, eight sites would be developed adjacent to similar existing facilities. Three of the sites would require new development.

Several of these existing facilities sites would be used to complete both paths 1 and 2, which include Hansen Butte Cottonwood, Ellen D, Rocky Point, Cave Mountain, Mount Wilson, and Highland Peak.

Comparison of Final Routing Alternative

Preferred route selection was based upon the comparison of alternative routes between the Midpoint Substation near Shoshone, Idaho, and the proposed substation at Dry Lake northeast of Las Vegas, Nevada, and alternative routes between the Ely, Nevada area and the Delta, Utah area. Seven final routing alternatives were identified for the Midpoint to Dry Lake portion based on combinations of routing alternatives environmentally preferred by the five major resources. Four final routes were identified for the Ely to Delta portion. These routes are compared in this document and the environmentally, agency, and utility preferred route(s) are identified (refer to the Map Volume accompanying the DEIS/DPA).

The final selection of substation and series compensation station sites were based on the selection of the environmentally preferred route. The impacts of the microwave facilities sites are also documented in Appendix F of the DEIS/DPA.

To assist in the determination of routing preferences, the environmental consequences for each route were summarized based on the residual impact assessment results (after mitigation measures applied), specific environmental resource preferences, and agency and public comments. A reasonable number of the best environmental routing alternatives were determined from combining individual links to make complete routes.

Subroutes sets are made up of localized alternatives that have common beginning and end points. Subroutes were evaluated in order to reduce the potential number of routes that could be derived from the link segments. Figure OBJ-10 illustrates the twenty-four sets of subroutes that were identified and evaluated to help derive the alternative routes compared in this document. The link segments where no local routing decisions were necessary, were termed connectors. The environmentally preferred subroute within each set of subroutes was selected and combined with the connector links to form alternative routes. The subroute selection process is described in Appendix D of the DEIS/DPA of this document, and is accompanied by maps and summaries of the resource impacts for each subroute set.

Midpoint to Dry Lake

Transmission Line Alternatives

The resulting network of routes was organized into eight major routing alternatives from Midpoint Substation in Idaho to the proposed substation at Dry Lake northeast of Las Vegas, Nevada (refer to Figures OBJ-14 through OBJ-20):

- **Route A** - 345kV*-Thousand Springs-Goshute Valley-Steptoe-Egan Range-Dry Lake Alternative is comprised of link segments:

  10, 20, 41, 40, 50, 70, 72, 101, 102, 110, 130, 160, 161, 162, 1612, 152, 200, 211, 212, 230, 250, 259, 260, 261, 270, 291, 293, 310, 340, 362, 363, 669, 670, 672, 673, 675, 690, 700, 720

- **Route B** - 345kV*-Trout Creek-Wendover-Steptoe-Antone Pass-Dry Lake Alternative is comprised of link segments:

  10, 20, 41, 40, 50, 70, 72, 91, 92, 140, 141, 142, 144, 200, 221, 222, 224, 226, 259, 261, 270, 280, 310, 340, 362, 363, 669, 670, 672, 673, 675, 690, 700, 720

- **Route C** - 345kV*-Trout Creek-Goshute Valley-Steptoe-Egan Range-Dry Lake Alternative is comprised of link segments:

  10, 20, 41, 40, 50, 70, 72, 91, 92, 140, 141, 142, 144, 200, 211, 212, 230, 250, 259, 260, 261, 270, 291, 293, 310, 340, 362, 363, 669, 670, 672, 673, 675, 690, 700, 720

- **Route D** - 345kV*-Wells-Steptoe-Egan Range-Dry Lake Alternative is comprised of link segments:

  10, 20, 41, 40, 50, 70, 72, 101, 102, 110, 130, 160, 161, 162, 1611, 166, 167, 1613, 180, 190, 230, 241, 243, 245, 261, 270, 291, 293, 310, 340, 362, 363, 669, 670, 672, 673, 675, 690, 700, 720

- **Route E** - 345kV*-Thousand Springs-Wendover-Steptoe-Egan Range-Dry Lake Alternative is comprised of link segments:

  10, 20, 41, 40, 50, 70, 72, 101, 102, 110, 130, 160, 161, 162, 152, 200, 221, 222, 224, 226, 259, 261, 270, 291, 293, 310, 340, 362, 363, 669, 670, 672, 673, 675, 690, 700, 720

- **Route F** - Hagerman-Trout Creek-Goshute Valley-Egan Range-Dry Lake Alternative is comprised of link segments:

  61, 62, 64, 70, 72, 91, 92, 140, 141, 142, 144, 200, 211, 212, 230, 250, 259, 260, 261, 270, 291, 293, 310, 340, 362, 363, 669, 670, 672, 673, 675, 690, 700, 720

- **Route G** - 345kV*-Cottonwood Creek-Thousand Springs-Goshute Valley-Steptoe-Egan Range-Dry Lake Alternative is comprised of link segments:

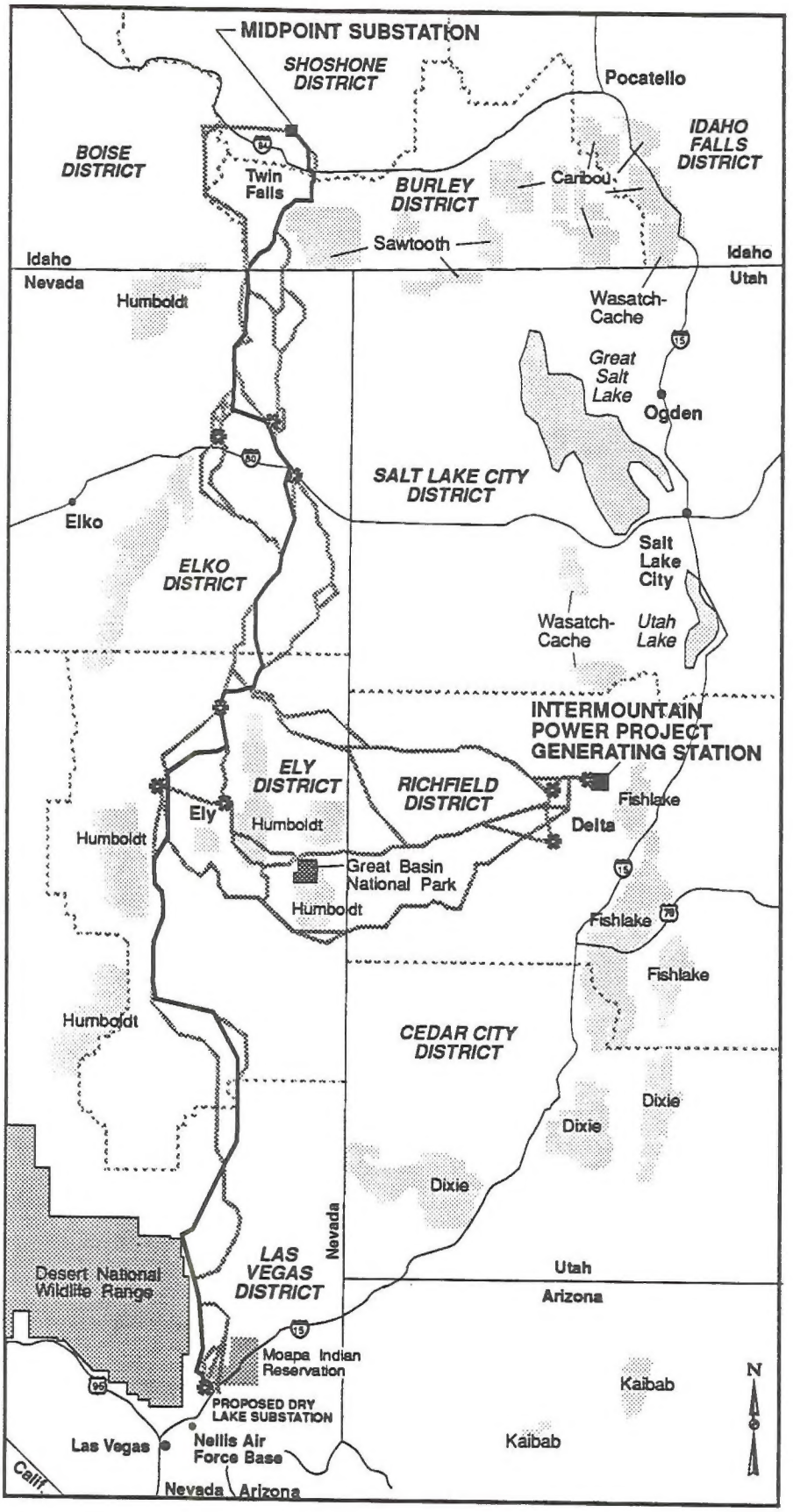
  10, 20, 41, 40, 50, 70, 711, 714, 101, 715, 713, 110, 130, 150, 151, 152, 200, 211, 212, 230, 241, 243, 245, 261, 270, 280, 310, 340, 362, 363, 669, 670, 672, 673, 675, 690, 700, 720

  * - parallels Midpoint to Valmy 345kV transmission line

The following section describes various issues and resource preferences for each route compared. Environmental data are summarized in Table OBJ-14 and committed mitigation by alternative route is shown in Table OBJ-15.

Route A: 345kV-Thousand Springs-Goshute Valley-Steptoe-Egan Range-Dry Lake Alternative Route A would parallel the Midpoint to Valmy 345kV transmission line to south of Contact, Nevada. Just south of the Midpoint Substation this route would also parallel the double-circuit line of Midpoint-Stateline 345kV and Midpoint-Hunt 230kV transmission line.

This route would cross open rangelands broken by small dispersed farm areas southeast from the Midpoint Substation to crossing the Snake River Canyon (Links 10, 20, 40, 41, 50, and 70). The Bureau of Reclamation is concerned about the visual impacts to the Minidoka Relocation Center (Link 20), a site on the National Register of Historic Places, the location where thousands of Americans of Japanese descent were interned during World War II. The site is also a designated park site for the Idaho Centennial. Other concerns in this area are visual impacts to rural residences and direct impacts to irrigated agricultural lands.



Route A

LEGEND

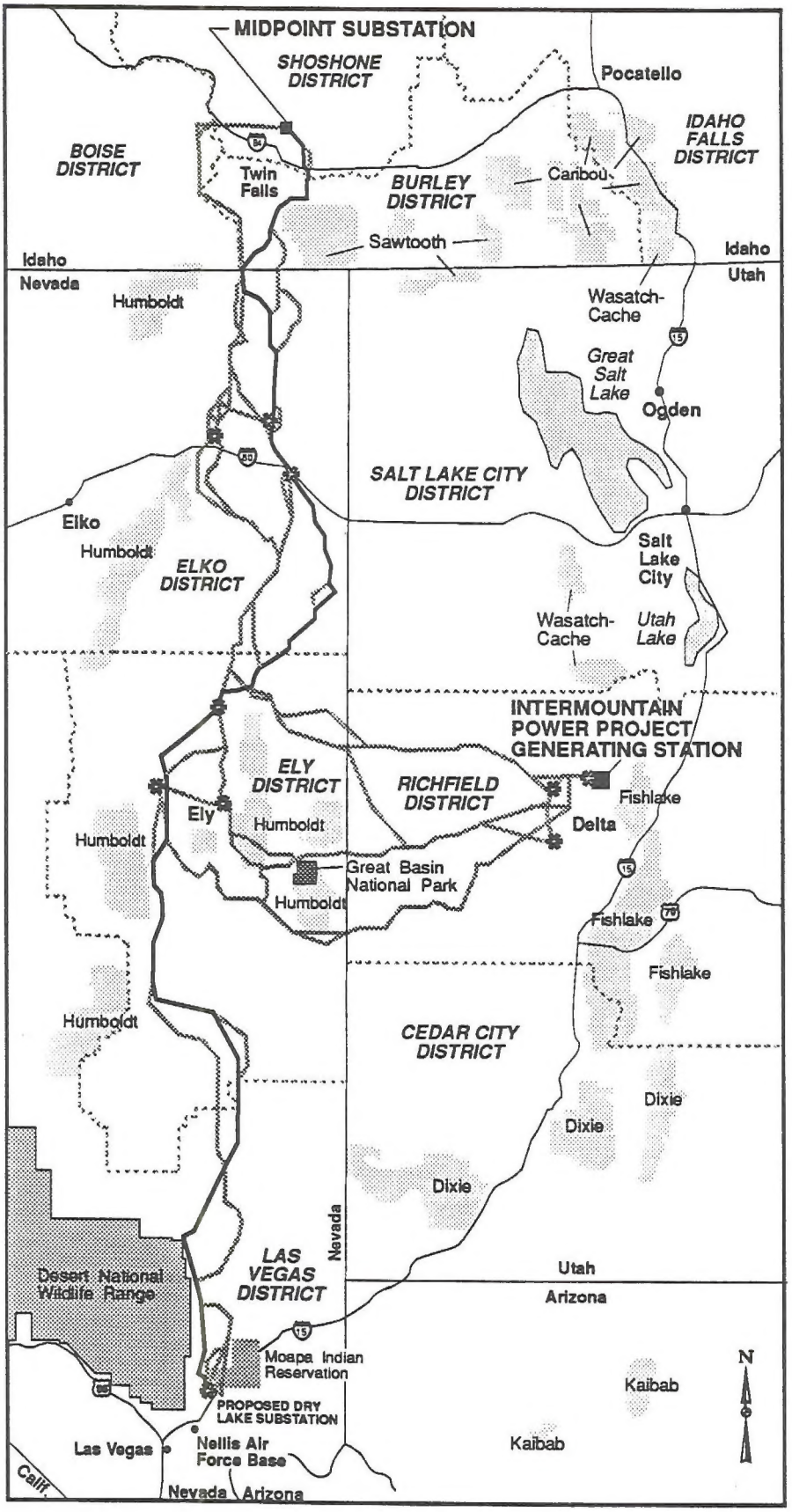
- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- Forest Service Boundaries
- Alternative Substation Siting Area

Note: not to scale

Alternative Routes - Midpoint to Dry Lake

Dames & Moore

Figure OBJ-14



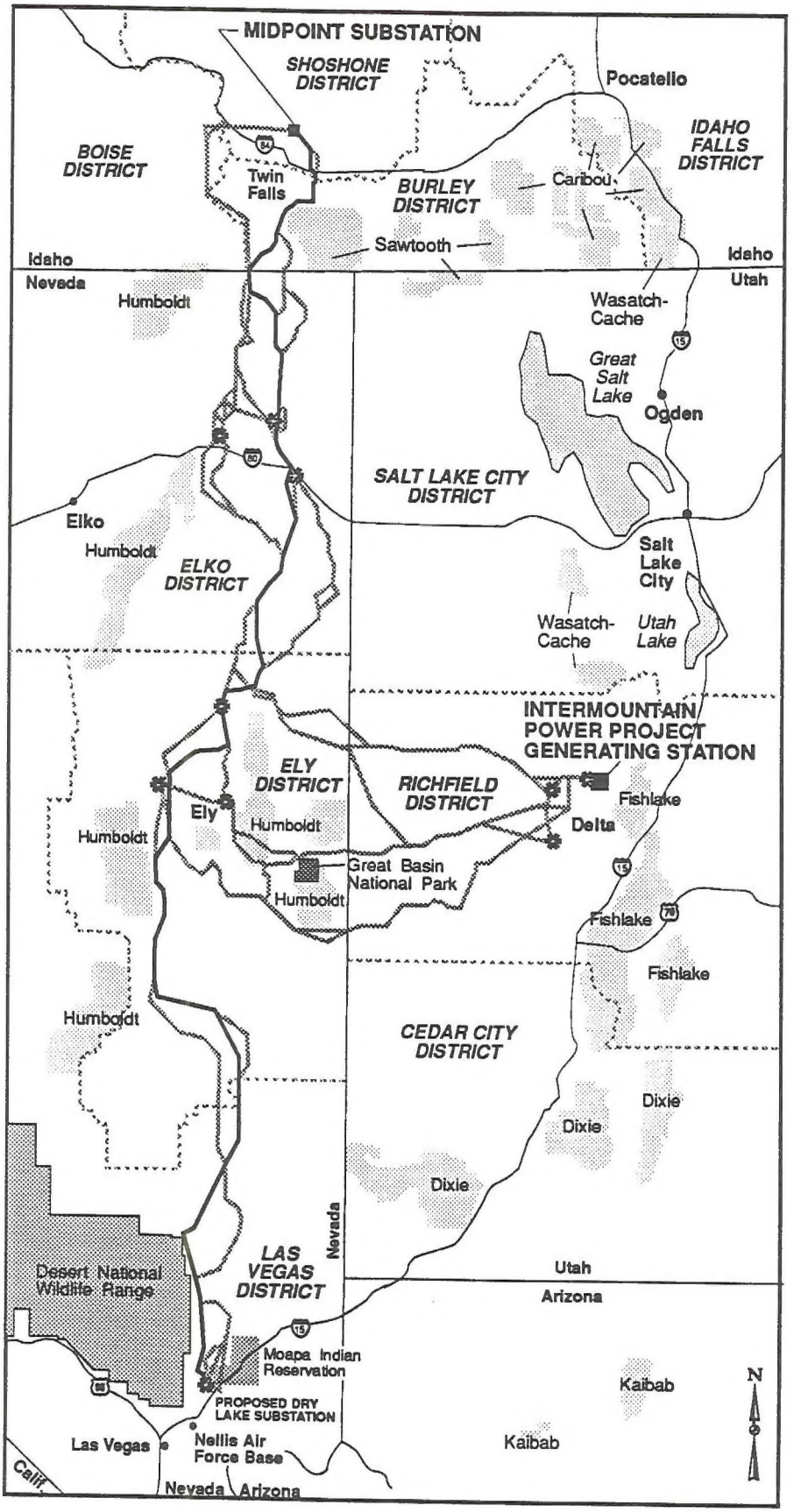
Route B

LEGEND

- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- Forest Service Boundaries
- Alternative Substation Siting Area

Note: not to scale

Alternative Routes - Midpoint to Dry Lake



Route C

LEGEND

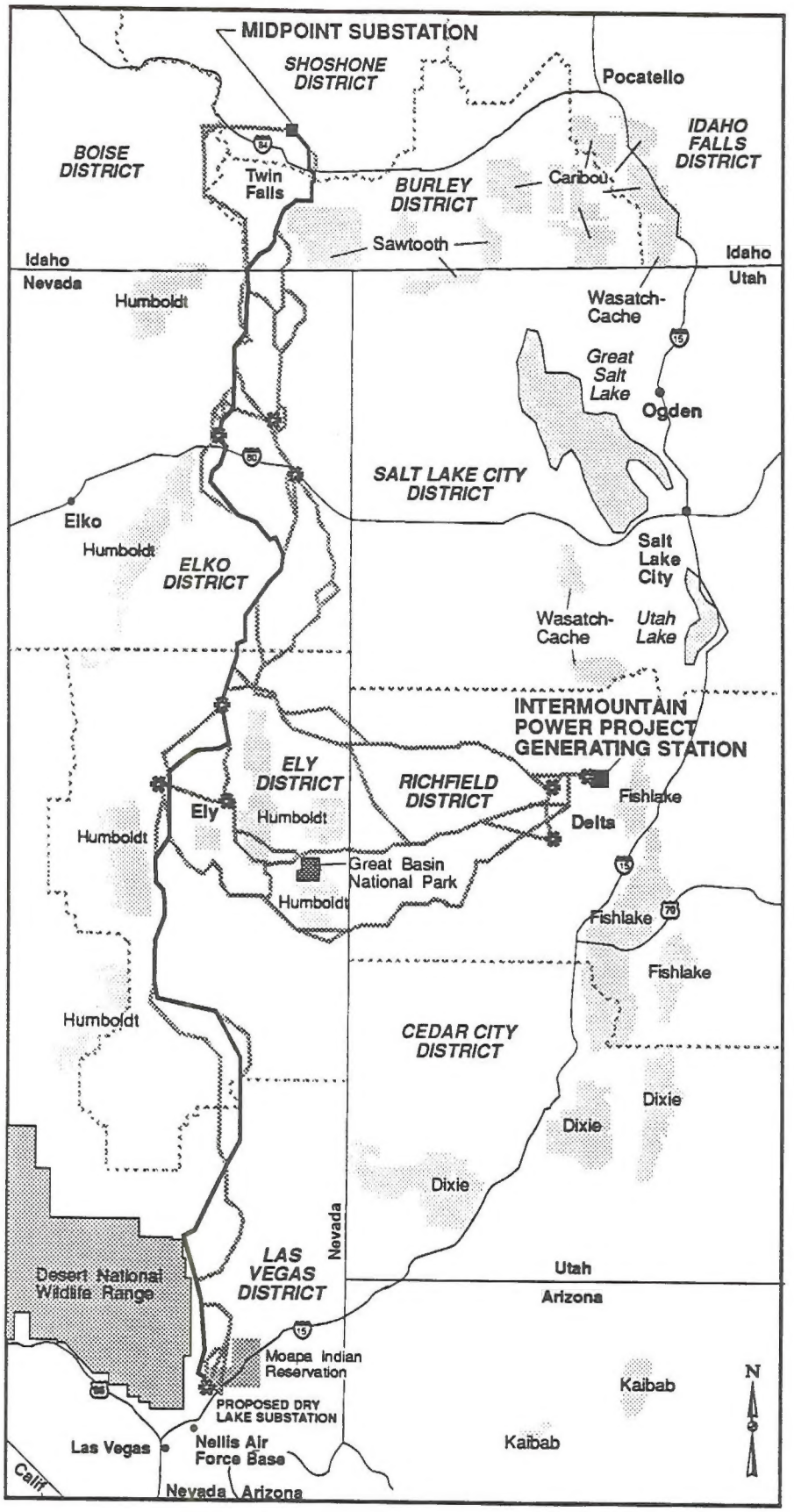
- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- Forest Service Boundaries
- Alternative Substation Siting Area

Note: not to scale

Alternative Routes - Midpoint to Dry Lake

Dames & Moore

Figure OBJ-16



Route D

LEGEND

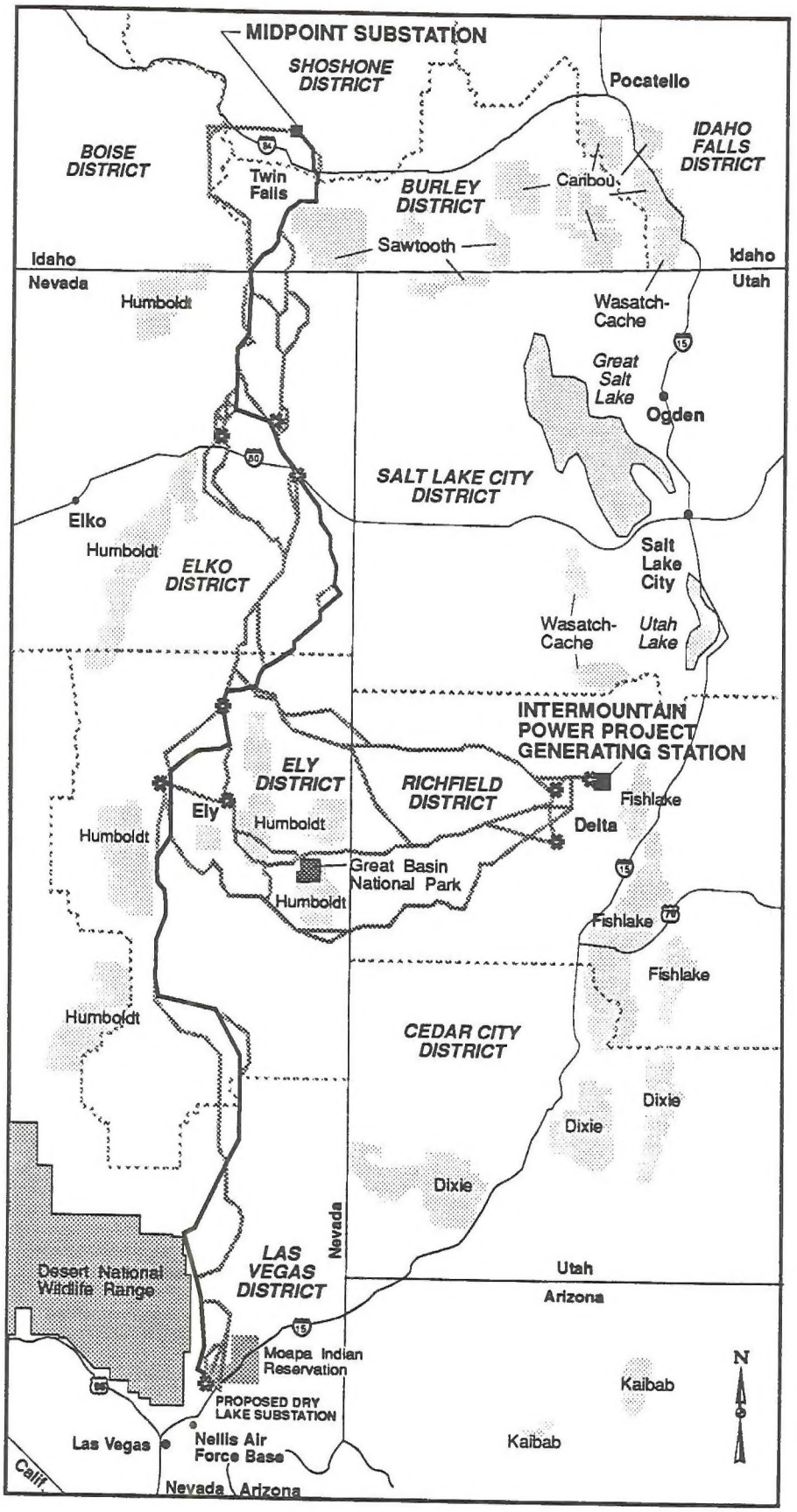
- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- Forest Service Boundaries
- Alternative Substation Siting Area

Note: not to scale

Alternative Routes - Midpoint to Dry Lake

Dames & Moore

Figure OBJ-17



Route E

LEGEND

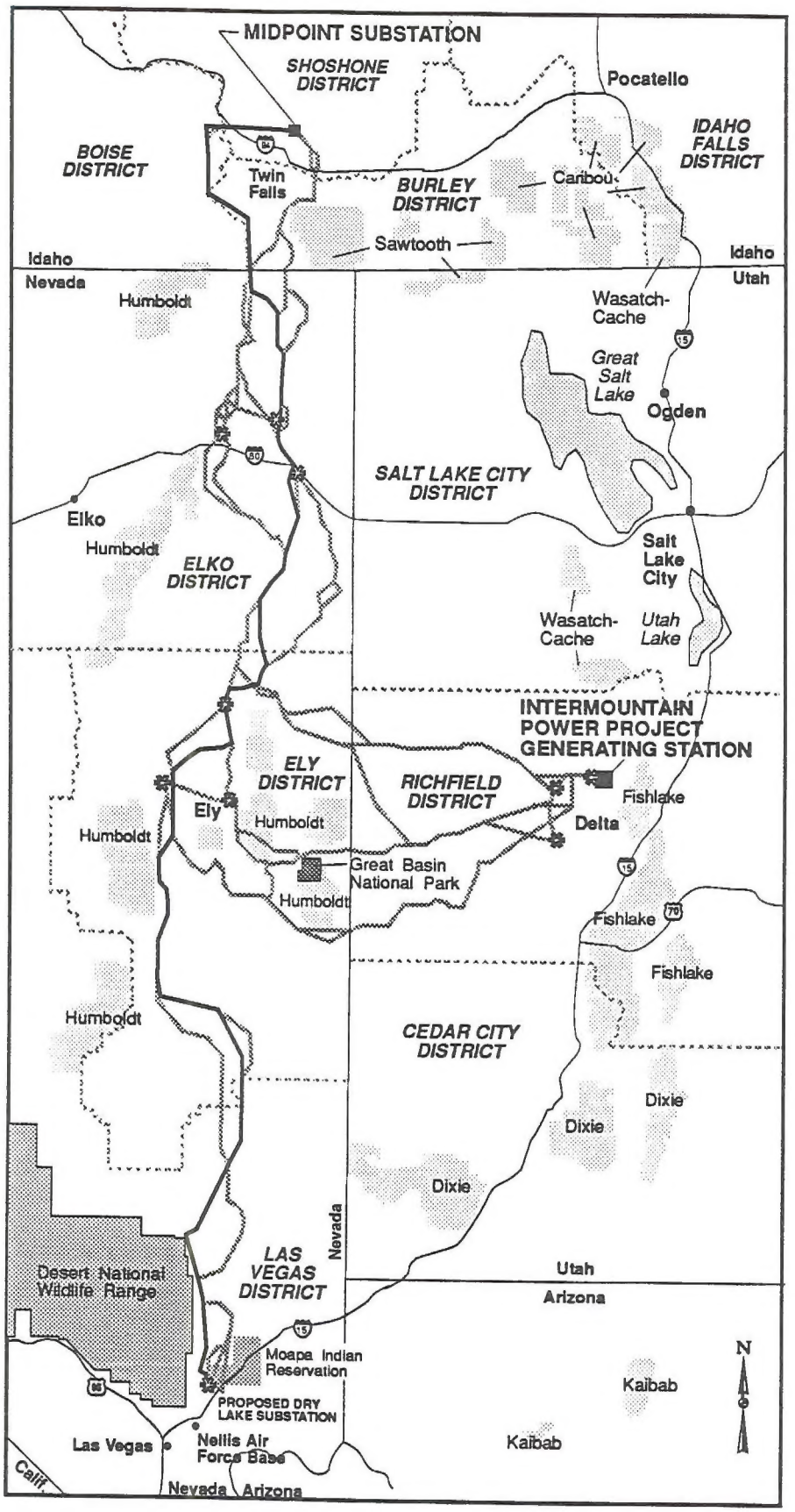
- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- Forest Service Boundaries
- Alternative Substation Siting Area

Note: not to scale

Alternative Routes - Midpoint to Dry Lake

Dames & Moore

Figure OBJ-18



Route F

LEGEND

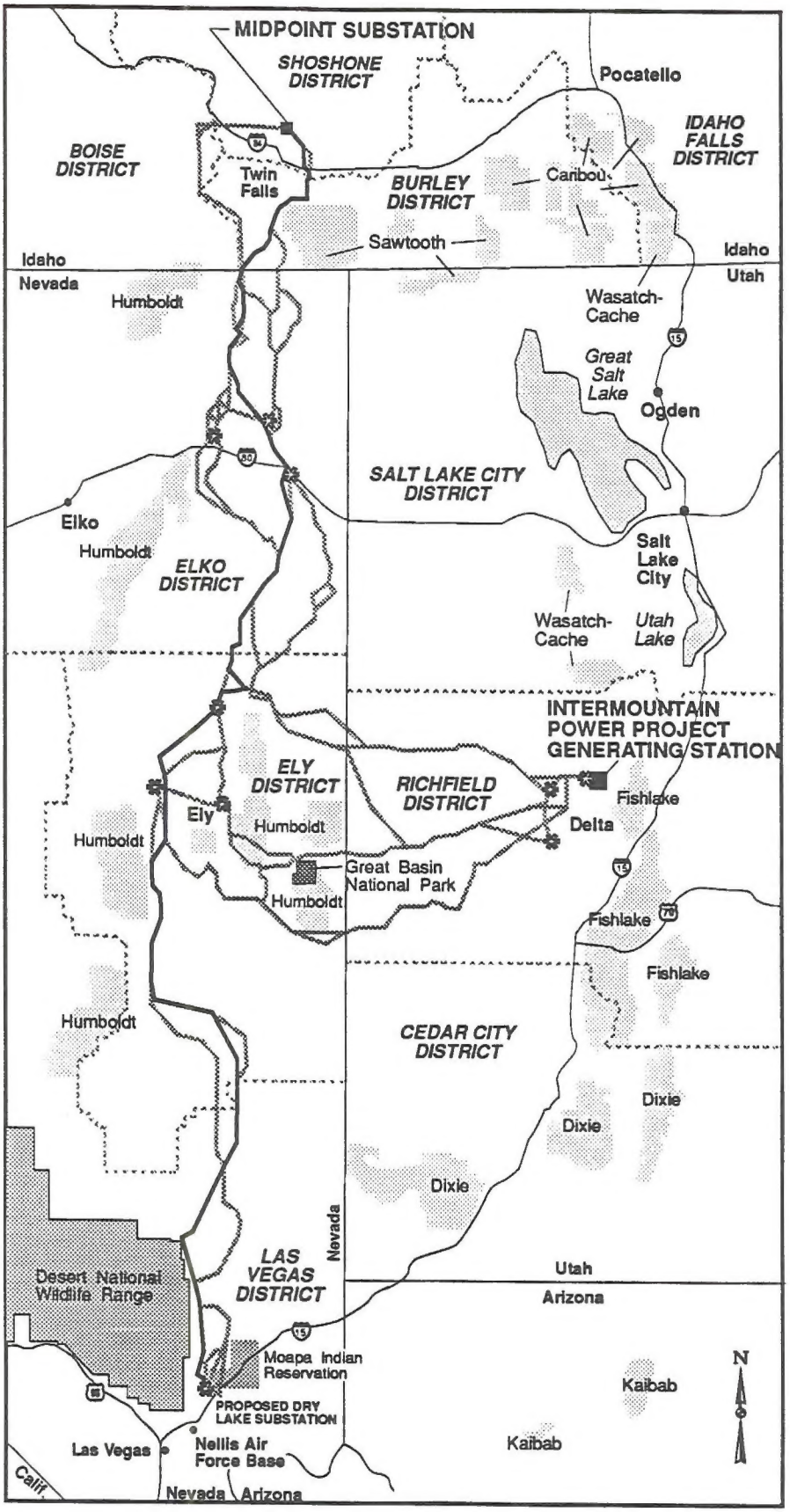
- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- Forest Service Boundaries
- Alternative Substation Siting Area

Note: not to scale

Alternative Routes - Midpoint to Dry Lake

Dames & Moore

Figure OBJ-19



Route G

LEGEND

- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- Forest Service Boundaries
- Alternative Substation Siting Area

Note: not to scale

Alternative Routes - Midpoint to Dry Lake

Dames & Moore

Figure OBJ-20

From the river canyon south to the toe of the foothills, the route (Link 41) would cross agricultural lands in the Snake River Valley. The route would turn west at the toe of the South Hills and follow them around to the southwest and south outside the Sawtooth National Forest boundary (Links 41, 40, and 50), primarily through rangelands. Throughout this area there are concerns about visual impacts to the scattered rural residences. A few miles north of the Idaho-Nevada state line, this route (Link 70) would meet and parallel the Upper Salmon to Wells 138kV transmission line. The route would continue south parallel to the existing 138kV and 345kV transmission lines passing just west of Jackpot, Nevada and would cross Salmon Falls Creek (Link 72) in the rolling terrain of the Browns Bench parallel to the 345kV transmission line.

The route would continue south parallel to U.S. Highway 93 (Link 101) to just north of Contact, Nevada, where the route would cross the highway parallel to the 345kV transmission line (Link 102). At Rocky Peak the 345kV transmission line turns southwest. Route A continues south parallel to the 138kV line crossing U.S. Highway 93 again (Link 160), then just north of the HD Summit (Link 162) the route would turn sharply east along the northern toe of the Windermere Hills (Link 1612) and cross U.S. Highway 93 a third time. As the route enters the Toano Draw, it would turn southeast (Link 152) along the western edge of the draw (Link 200) into the Goshute Valley. Along the eastern toe of the Pequop Mountains, the route (Link 211) would continue south passing just to the west of Oasis, Nevada before crossing Interstate 80. There were concerns expressed in the public workshops about visual impacts to a ranch headquarters in the Goshute Valley. In addition, the BLM has also expressed concerns about visual impacts at the Interstate 80 crossing, a designated "low visibility" corridor in the Wells Resource Management Plan.

The route would continue south through the Goshute Valley (Links 212, 230) parallel to an unused railroad bed past Shafter passing to the east of the South Pequop WSA. Northwest of the Dolly Varden Mountains, the route would turn south through the Currie Hills (Link 250) towards Lages Station, Nevada, in the northern portion of the Steptoe Valley. The BLM is concerned about the visual impacts to views in the North Steptoe Valley caused by the crossing of U.S. Highway 93A (Link 250) and the crossing of U.S. Highway 93 (Link 260). Routing around the northern tip of the Schell Creek Range (Links 259, 260) would introduce visually contrasting elements into foreground and middleground views from these highways where the Schell Creek Range and the Currie Hills (Link 250) would backdrop the proposed transmission line.

The route would continue to an alternative substation site located in the North Steptoe Valley over a mile west of U.S. Highway 93. From this substation site, the route would pass south along the western edge of Steptoe Valley (Links 270, 291) then cut southwest through Dry Canyon (Link 293) in the Egan Range. Once west of the Egan Range, the route would cross Butte Valley and enter the Robinson Summit area (Link 310), the location of a second alternative substation site in the Ely area, after crossing Nevada State Highway 50.

The route would continue on the east side of Jakes Valley (Links 340, 362, 363) into the White River Valley crossing the White River and Nevada State Highway 6 (Link 669). Just south of the Wayne Kirch National Wildlife Refuge it would cross the White River again, then turn southeast to a pass at the southern end of the Schell Creek Range (Link 672). Nellis Air Force Base has expressed concerns for low-altitude military aircraft operations where Route A

would cross the Muleshoe Valley and into the north end of the Dry Lake Valley (Link 673). From the Black Canyon on the east edge of the Dry Lake Valley, the route would meet and parallel Lincoln Power's 69kV power line along the toe of the Burnt Springs Range (Link 675). The route would continuously parallel this 69kV line into Coyote Spring Valley, northeast of Las Vegas.

The route would continue into the Delamar Valley and past Delamar Lake to meet Pahranagat Wash adjacent to Maynard Lake (Link 690). From this point, the route would parallel Pahranagat Wash where several WSAs are of concern. The proximity of their boundaries cause significant routing constraints (pinch points) for several miles along Pahranagat Wash south of Maynard Lake. On the east side of Pahranagat Wash is the Delamar WSA, and on the west side is the Evergreen WSA. Although neither WSA is recommended by BLM to be designated as Wilderness, BLM is concerned about visual impacts from dispersed areas within the WSAs. The route would parallel the 69kV line, U.S. Highway 93, and the UNTP 500kV transmission line through this area. Because of these "pinch points," it may be necessary to build the SWIP and UNTP on double circuit towers for four to six miles along Pahranagat Wash and parallel to U.S. Highway 93 (from milepost 28 to milepost 34 on Link 690). If these lines were built on double circuit towers, the future White Pine Power Project (WPPP) lines would be placed on the open circuits of each line. From milepost 34 of Link 690, the SWIP and UNTP lines would be on separate single circuit structures. The SWIP route would cross U.S. Highway 93 at about milepost 38 of Link 690.

The route would then cross Coyote Spring Valley and enter a corridor established by Congress in March 1988 for the Aerojet Land Exchange (Link 700). A portion of the area east of the route in the Coyote Spring Valley was set aside by Congress in the land exchange legislation for the management of desert tortoise. There is a concern by BLM throughout this area and into Coyote Spring Valley and Hidden Valley for visual impacts to views from U.S. Highway 93. The Arrow Canyon WSA is on the east side of the route and encompasses the Arrow Canyon Range from Nevada State Highway 7 south for several miles. Along the same corridor, several Fish and Wildlife WSAs lie on the west side of the Arrow Canyon WSA (Link 700). They begin at the northern portion of the Coyote Springs Valley and continue several miles south to Hidden Valley. South of these WSAs the route would turn east through a small pass in the southern Arrow Canyon Range, just east of Hidden Valley, and into the proposed substation at Dry Lake.

Although none of the WSAs potentially affected by the route are recommended by BLM to be designated as Wilderness, BLM is concerned about the potential visual impacts to dispersed recreational users within these WSAs.

Route B: 345kV-Trout Creek-Wendover-Steptoe-Antone Pass-Dry Lake Alternative This route is the same as Route B (above) from the Midpoint Substation to south of Jackpot, Nevada (Link 72).

Just south of Salmon Falls Creek, Route B would turn sharply southeast crossing U.S. Highway 93 (Link 91) to roughly parallel Trout Creek west of the Granite Range (Link 92) and Knoll Mountain (Link 140), and then cross Thousand Springs Valley. The route would pass just west of the Ninemile Mountain (Link 141) and continue south through Toano Draw

which joins the Goshute Valley west of the Pequop Mountains. The route then would cross the Goshute Valley approximately three miles northeast of Oasis, Nevada (Links 221, 222).

The route would cross Interstate 80 in Silver Zone Pass and traverse south along the eastern toe of the Goshute Mountains (Link 222). The route would also pass east of the Bluebell WSA (Link 222). Near Ferguson Mountain the route would cross U.S. Highway 93A (Link 224) then would parallel it to Lages Station, Nevada (Link 226). The BLM has expressed concerns for visual impacts from dispersed areas where this route would pass adjacent to the Goshute Peak WSA, an area recommended for Wilderness designation (Link 226).

From Lages Station south into north Steptoe Valley, the route would parallel U.S. Highway 93 then cross the highway to reach the alternative substation site at the north end of Steptoe Valley. The BLM is concerned that the route would introduce visually contrasting elements into foreground and middleground views from U.S. Highway 93 as the route passes around the northern tip of the Schell Creek Range (Links 259, 260). The Schell Creek Range would be a backdrop to the proposed transmission line in this location.

From the substation site, the route would cross the Steptoe Valley passing east of the community of Cherry Creek while parallel to a Nevada Northern Railroad right-of-way. The route then would turn southwest into Antone Pass between the Cocomongo Mountains and the Egan Range. West of this pass, the route would traverse Butte Valley and enter the Robinson Summit alternative substation site from the north.

From Robinson Summit south to its terminus in Dry Lake Valley, northeast of Las Vegas, Nevada, Route B is identical to Route A (above).

Route C: 345kV-Trout Creek-Goshute Valley-Steptoe-Egan Range-Dry Lake Alternative Route C is the same as Route A from Midpoint Substation to just south of Jackpot, Nevada.

From south of Jackpot to the vicinity of Oasis, Nevada (Link 200), Route C is the same as Route B. Then, from Oasis (Link 211), Route C is identical to Route A to the southern terminus in the Dry Lake Valley, northeast of Las Vegas, Nevada.

Route D: 345kV-Wells-Steptoe-Egan Range-Dry Lake Alternative Route D is the same as Route A from Midpoint Substation south to just north of HD Summit (end of Link 162) at southern end of Thousand Springs Valley.

From HD Summit, Route D would parallel the Upper Salmon to Wells 138kV transmission line in the narrow valley west of U.S. Highway 93 south into the northern end of the Town Creek Flats (Links 1611, 166, 167, 1613). The route would turn southeast crossing U.S. Highway 93 towards Wells Peak, cross the eastern half of the Town Creek Flats, and then pass along the northwestern toe of the Wood Hills several miles east of Wells, Nevada (Link 180). The BLM has expressed concern about visual impacts at the crossing of U.S. Highway 93 north of Wells, and the crossing of Interstate 80 about two miles west of Moor Summit.

From the Wood Hills, the route would cross the Independence Valley (Link 180) and begin paralleling a Union Pacific Railroad right-of-way (Link 190) near the center of the valley. The route would cross the Pequop Mountains over the Union Pacific railroad tunnel near Hogan

and enter the Goshute Valley. The route then passes one mile east of the South Pequop WSA (Link 190), which has been recommended for Wilderness designation. A short distance after the WSA, the route would turn south-southwest and pass the town of Dolly Varden. Just south of Mizpah, the route would turn south away from the railroad and would cross U.S. Highway 93 several miles south of Currie, Nevada (Link 241). The route would pass to the east of the Goshute Canyon WSA and the adjacent Natural Area (junction of Links 241, 242 & 243). Continuing south along the western edge of Goshute Lake, the route would then turn southeast to an alternative substation site located at the north end of the Steptoe Valley.

From the North Steptoe Valley (Link 270), Route D is identical to Route A south to the southern terminus in the Dry Lake Valley, northeast of Las Vegas, Nevada.

Route E: 345kV-Thousand Springs-Wendover-Steptoe-Egan Range-Dry Lake Alternative Route E is the same as Route A from Midpoint Substation to Oasis, Nevada near Interstate 80 (refer to Route A description above).

From Oasis to the alternative substation site in the North Steptoe Valley, Route E is identical to Route B (refer to Route B description above). Route E is the same as Route A from the north Steptoe Valley south to the southern terminus in the Dry Lake Valley, northeast of Las Vegas, Nevada.

Route F: Hagerman-Trout Creek-Goshute Valley-Egan Range-Dry Lake Alternative Route F would depart Midpoint Substation to the west towards the Hagerman area crossing rural agricultural lands broken by dispersed sage scrub range areas (Link 61). Visual impacts to the many residences in the area and land use conflicts with agriculture operations in the Snake River Valley were among the concerns expressed at public meetings in the area. The route would descend the bluff into the Hagerman area just south of Malad Gorge State Park and cross the Snake River (Link 61). On the west side of the Snake River, the route would climb the steep, eroded wall of the canyon and traverse parallel to the north and west boundaries of the Hagerman Fossil Beds National Monument (Links 62, 64). The National Park Service has expressed concerns about visual impacts to the visitors' center and interpretation facilities planned for the Hagerman Fossil Beds National Monument.

As the route would turn south (Link 64), agricultural lands are avoided because the route follows a long, narrow strip of BLM lands known as Dickey Bird Lane (Link 62). BLM is concerned about the route crossing this land because of its use for vegetation and upland game research by BLM and Idaho Department of Fish and Game. From the end of Dickey Bird Lane, the route would traverse rural agricultural lands passing near several rural residences. There is concern that the route could impact a utility airstrip used by aerial spraying operations located near the southern boundary of the Hagerman Fossil Beds National Monument.

Just north of Balanced Rock State Park, the route would cross Salmon Falls Creek Canyon and parallel the Upper Salmon to Wells 138kV transmission line along the western rim of the canyon (Link 64). The route would continue south with the 138kV transmission line roughly paralleling this canyon. East of the Salmon Falls Reservoir, the route would cross the Idaho-Nevada state line near Jackpot, Nevada (Link 70).

Route F is the same as Route B from just south of Jackpot to near Oasis, Nevada. Then from Oasis to the southern terminus in Dry Lake Valley, Nevada, this route is identical to Route A.

Route G: 345kV-Cottonwood Creek-Thousand Springs-Goshute Valley-Steptoe-Egan Range-Dry Lake Alternative Route G is the same as Route A from Midpoint Substation south to the Idaho-Nevada state line (Link 70).

West of Jackpot, Nevada the route would cross Salmon Falls Creek (Link 711) a mile west of the Upper Salmon to Wells 138kV transmission line crossing. BLM representatives from the Elko District favor this crossing over the crossings used by other routes about two miles to the south.

Route G would then continue south parallelling the west side of the Midpoint to Valmy 345kV transmission line and the 138kV Upper Salmon to Wells transmission line. Sage grouse habitat between the transmission line corridor and Grassy Mountain is of concern along this area of the route. However, cumulative effects to the sage grouse are expected to be lower where the route parallels existing transmission lines (refer to Chapter 4 of the DEIS/DPA).

Continuing south (Link 101, 715), the route would then turn southeast to cross U.S. Highway 93 and the two existing transmission lines (Link 713) just north of Contact, Nevada. The BLM has expressed concerns about visual impacts to views from U.S. Highway 93 and residences in the Contact area. The route would continue south paralleling the two transmission lines on the east side to Rocky Peak (Links 110, 130). Then, the route would turn southeast away from the existing transmission line corridor and cross Thousand Springs Valley east of the Wilkins Ranch (Link 150, 151), and southeast into the Toano Draw.

The route would traverse the western edge of the Toano Draw (Link 200) into Goshute Valley. Along the eastern toe of the Pequop Mountains, the route (Link 211) would continue south passing just to the west of Oasis, Nevada before crossing Interstate 80. There were concerns expressed in the public workshops about visual impacts to a ranch headquarters in the Goshute Valley. In addition, the BLM has also expressed concerns about visual impacts at the Interstate 80 crossing, a designated low visibility corridor in the Wells Resource Management Plan.

The route would continue south through the Goshute Valley (Links 212, 230) parallel to an unused railroad bed passing Shafter and Dolly Varden. A little south of Mizpah, the route would turn south away from the railroad crossing U.S. Highway 93 several miles southeast of Currie, Nevada (Link 241). The route would then pass to the east of the Goshute Canyon WSA and the adjacent Natural Area (junction of Links 241, 242 and 243). Continuing south along the western edge of Goshute Lake, the route would turn southeast to an alternative substation site located at the north end of the Steptoe Valley.

Route G is the same as Route B from this substation site to the southern terminus in Dry Lake Valley, Nevada.

Substation and Series Compensation Station Sites

Three new facilities would be required between Midpoint Substation and the proposed terminus in the Dry Lake Valley. A series compensation facility would be required north of Wells, Nevada. The facility near Wells could be expanded to include switching equipment if an interconnection with Sierra Pacific Power is needed in the future. This site was formerly proposed as a potential interconnection with the Thousand Springs Power Project (TSPP), which was canceled in 1991. However, Sierra Pacific has expressed interest in a transmission interconnection at this site. The second new facility would be a new substation facility in the vicinity of Ely, Nevada, to provide an interconnection point for the Ely to Delta routes (Crosstie) and potentially the 230kV transmission system already in the area. The third new facility is a new substation in the Dry Lake Valley northeast of Las Vegas, the proposed termination point for the SWIP. A fourth facility, a series compensation station, may be required in the Delamar Valley, which would require a separate environmental assessment (EA) if constructed.

In the Ely area, only one substation site would be selected for the SWIP. If a substation is developed at the Robinson Summit site, a substation may also be developed at the North Steptoe site, if the WPPP is developed in the future. If the North Steptoe substation site is developed as part of the SWIP, the Robinson Summit substation site may also be developed in the future to provide an interconnection with the 230kV transmission system in the area. However, only one substation site would be developed as part of the SWIP.

Seven facility siting areas were identified and studied between Midpoint and Dry Lake. The North Steptoe, Robinson Summit, and Hercules Gap siting areas were identified to locate a new substation in the vicinity of Ely. The U.S. Highway 93, Thousand Springs, and Goshute Valley siting areas northeast of Wells, Nevada, were identified to locate a series compensation station between Midpoint and Ely. The seventh siting area in the Dry Lake Valley northeast of Las Vegas was identified for a new substation facility and the proposed southern terminus of the SWIP.

These siting areas are shown on the route map in the Map Volume that accompanies the DEIS/DPA. Environmental resource data for each of these siting areas were collected and mapped during the inventory.

Alternative facilities sites within these seven siting areas were determined through a siting process which compiled environmental and engineering data using GIS. The analysis of these data produced environmental and engineering constraints maps that were used by project planners to determine specific alternative facility sites within each of the siting areas. Potential resource impacts for alternative facilities sites were then determined using GIS models (modified versions of those used for the alternative transmission lines routes). The selection of the specific sites was determined by a review of the environmental impacts in conjunction with the transmission line route selection process.

Among the three substation siting areas in the vicinity of Ely, a total of six alternative substation sites were identified and assessed for impacts. Of these six alternative substation sites, only two were considered environmentally acceptable:

- North Steptoe - located in the North Steptoe Valley north of McGill, Nevada, adjacent to the proposed site of the White Pine Power Project

- Robinson Summit - located just south of U.S. Highway 50 west of Ely, Nevada

Among the three series compensation station siting areas north and east of Wells, a total of seven alternative sites were identified and assessed for impacts. Because the final selection of the series compensation station site would be determined by the route selection process, one site from each series compensation station siting area was selected.

Comparative resource impacts and further description of the substation siting and impact assessment process are found in Appendix E of the DEIS/DPA.

Communication Facilities

A total of 16 alternative microwave communication sites were identified and studied for the portion of the transmission line from Midpoint Substation to the proposed Dry Lake substation site. Two alternative microwave communication paths have been identified (refer to the Map Volume accompanying the DEIS/DPA). These alternative paths depend on where the substation near Ely is sited, the North Steptoe site or Robinson Summit site.

It is possible that a fiber optic groundwire may be installed (on the towers in place of the shield wire) to facilitate communication needs for the transmission line, or capacity may be sold to commercial communication companies. If fiber access is allowed to commercial companies, they would be responsible for obtaining the necessary permits and right-of-way needed for regeneration stations at intervals along the transmission line (also refer to Right-of-Way Acquisition).

The communications path from Midpoint Substation to the Robinson Summit substation site to the proposed substation at Dry Lake would require the development of new microwave facilities at ten (10) of the alternative microwave sites studied. Of these ten sites, eight sites would be developed at locations adjacent to existing electronic facilities and two of the sites would require new construction on previously undeveloped sites. The specific microwave sites required for each of the paths are listed below, from north to south:

Robinson Summit	**North Steptoe**
<u>Path 1</u>	<u>Path 2</u>
Hansen Butte	Hansen Butte
Cottonwood	Cottonwood
Ellen D	Ellen D
Rocky Point	Six-Mile
Proctor	Spruce Mountain
Bald Peak	Long Valley

Robinson Summit	North Steptoe
Path 1 (cont.)	Path 2 (cont.)
Raiff	Copper
Squaw Peak	Cave Mountain
Cave Mountain	Mount Wilson
Mount Wilson	Highland Peak
Highland Peak	

The other path would link Midpoint Substation to the North Steptoe substation site at Dry Lake and would require the development of new microwave facilities at eleven of the alternative microwave sites studied. Of these eleven sites, eight sites would be developed adjacent to similar existing facilities. Three of the sites would require new development.

The alternative microwave sites were identified based on a set engineering criteria and consideration for environmental concerns. Alternative sites were located at existing facility developments wherever possible. The locations of microwave sites are not dependent on the location of the transmission line route. Rather, they are dependent on the locations of the substations that they would control (e.g., Robinson Summit or North Steptoe).

The importance of the microwave facilities is to provide a communications link between substation, series compensation station, and switching facilities in the transmission line system. The microwave system provides the transmission line with a highly reliable and secure communication circuit for protective relaying, voice communications, telemetering, and supervisory control and data acquisition (SCADA).

Potential resource impacts for each site and additional environmental data are summarized in Appendix F of the DEIS/DPA. Also refer to the technical reports (Volumes II, III, and IV) under each resource for additional information on data inventory and potential impacts.

Ely to Delta

Transmission Line Alternatives

Four major routing alternatives were developed on the crosstie portion of the SWIP (east-west segments) from the Ely area to the Delta area (refer to Figures OBJ-21 through OBJ-24):

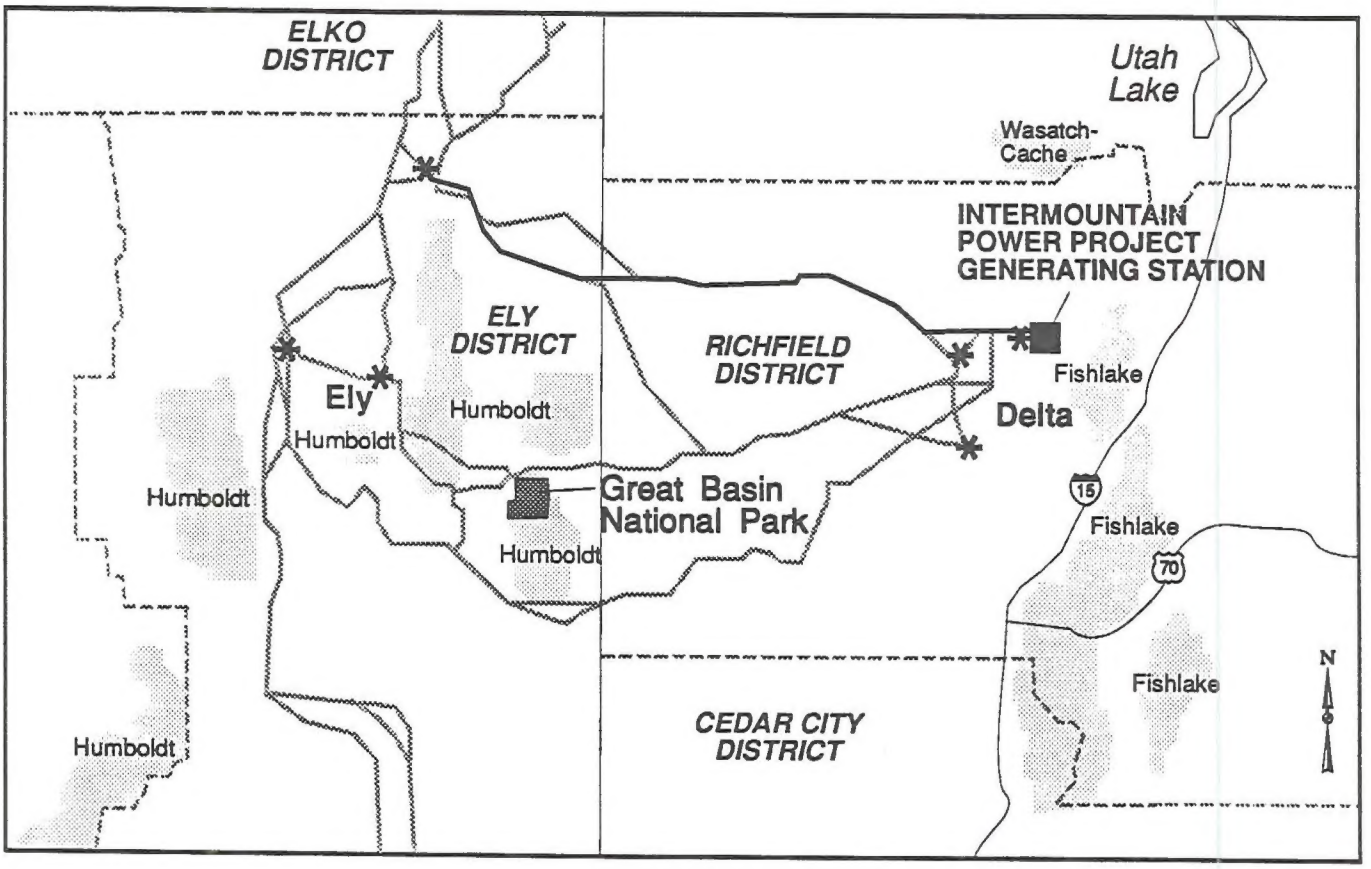
- **Direct Route** - is comprised of link segments:

  262, 263, 265, 266, 620, 621, 630, 640, 572, 580, 581, 582

- **Cutoff Route** - is comprised of link segments:

  262, 263, 265, 266, 267, 268, 462, 470, 540, 571, 572, 580, 581, 582

Delta Direct Route



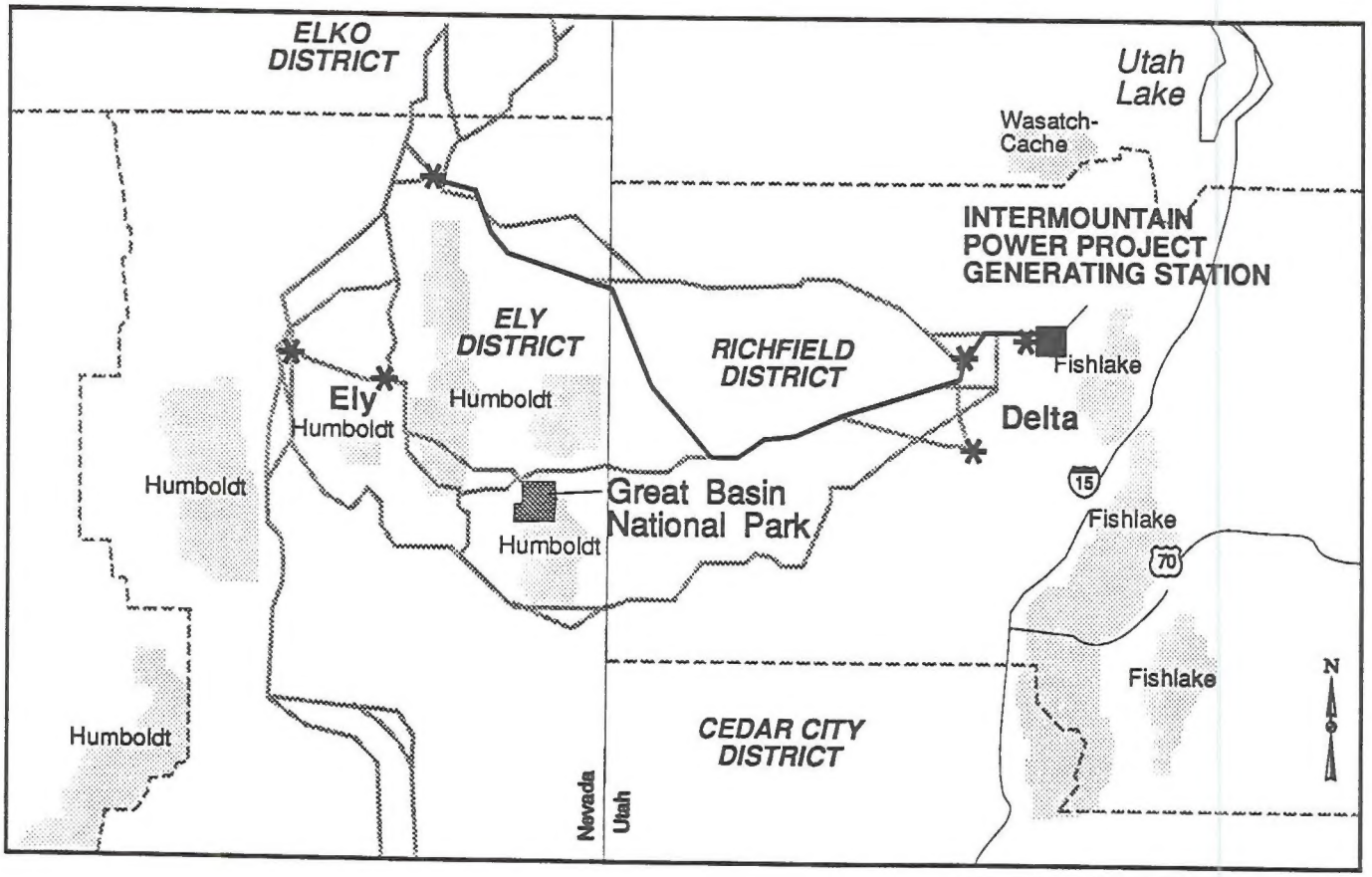
LEGEND

- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- Forest Service Boundaries
- * Alternative Substation Siting Area

Note: not to scale

Alternative Routes - Ely to Delta

Cutoff Route



LEGEND

- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- Forest Service Boundaries
- * Alternative Substation Siting Area

Note: not to scale

Alternative Routes - Ely to Delta

Dames & Moore

Figure OBJ-22

- **230kV Corridor Route** - is comprised of link segments:

  350, 351, 352, 370, 380, 460, 461, 462, 470, 540, 571, 572, 580, 581, 582

- **Southern Route** - is comprised of link segments:

  340, 362, 364, 420, 430, 450, 451, 490, 510, 560, 571, 572, 580, 581, 582

The following section describes various issues and resource preferences for each route.

Direct Route - The Direct Route would connect to the north-south SWIP transmission system at the North Steptoe substation. It would cross east of this area through the Schell Creek Range at the Dry Canyon, and into the Spring Valley. The route would cross the creek and continue southeast past Twelvemile Summit, Red Hills, and Mike Springs Wash, and then just north of the Little Hills.

The route would continue east through the Tin Springs Mountain, and would continue east parallelling the Juab-Millard County lines in Utah. The route would cross into the Snake Valley on the south end of the Deep Creek Range. In the middle of Snake Valley the route would cross the Leland-Harris Spring Complex, which is known to have several sensitive species of fish, the spotted frog, and a butterfly species. BLM is extremely concerned about the potential for increased public access into this area through road construction or upgrading. BLM would request emergency listing with Fish and Wildlife Service (FWS) of at least four species as threatened or endangered under the Endangered Species Act (1974) if this route is selected.

The route would continue east crossing through the Confusion Range and into Tule Valley south of the Middle Range. The route from the Nevada-Utah state line would be within the R-6405 Restricted Area of the Utah Training and Testing Range (UTTR) of Hill Air Force Base (AFB). Hill AFB is extremely concerned about their low-level flying missions through this entire area, and especially within the valleys. The high level of concern is amplified due to the current round of base closures throughout the U.S. Hill AFB is not scheduled to be closed. If the SWIP is constructed on this route, Hill AFB is requesting that it be designed and built at a height that is lower than would be technically feasible.

The route would then continue east, passing south of the Fish Springs WSA (Link 630) and north of the Swasey Mountain WSA near Swasey Point. It would then pass on the north end of the House Range and continue southeast between the Drum Mountains and Little Drum Mountains. The route would again turn straight east and passing south of the Drum Mountains and just north of Greener Reservoir. The last twelve miles into the Intermountain substation site would parallel the IPP to Adelanto 500kV DC line.

Cutoff Route - The first segment of the Cutoff Route from the North Steptoe substation to just east of the Little Hills is the same as the Direct Route (refer to above section). From here the route would pass across the north and east sides of Government Peak in the Little Valley. At this point the line would turn south and cross through the edge of the restricted area of

the UTTR. If the SWIP is constructed on this route, Hill AFB is requesting that shorter towers be constructed in specified areas to reduce the potential for conflict with low-level flying on the UTTR.

As the route proceeds southeast it would cross Snake Valley and into Coyote Pass in the Conger Range approximately three miles from the Marble Canyon WSA and Mount Moriah Wilderness area. BLM is concerned about the visual effects from dispersed areas within both of these areas.

At this point the route would join the route of the two existing 230kV transmission lines (Gondor-IPP, Gondor-Pavant) passing east through Sheepmens Little Valley and Payson Canyon. The route would cross Tule Valley as it continues east, then through Marjum Canyon between the Howell Peak and the Notch Peak WSAs. BLM is also concerned about the potential visual effects to these WSAs.

The 230kV corridor splits just east of Marjum Canyon. The SWIP route would follow the Gondor to IPP 230kV route northeast across the Whirlwind Valley to the south end of the Little Drum Mountains. It would continue along this corridor joined by the IPP to Adelanto 500kV DC line into the Intermountain Generating Station.

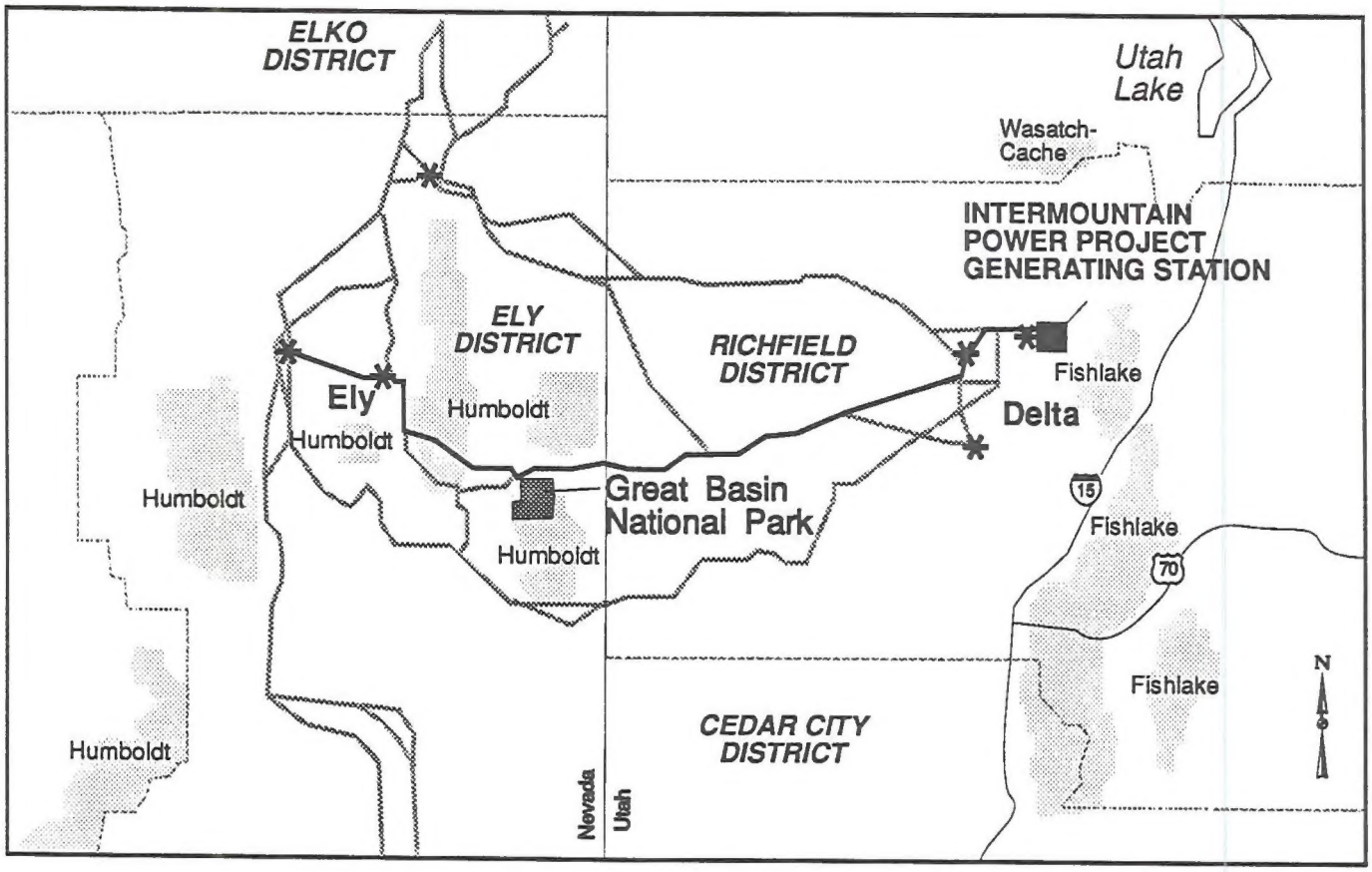
230kV Corridor Route - This route would begin at the Robinson Summit substation site and cross east into Smith Valley just south of the Hercules Gap. The route would continue east across U.S. Highway 93 before joining with the two existing 230kV transmission lines that make up this existing corridor. The corridor would cross east of Ely and enter the Humboldt National Forest in Cooper Canyon.

The corridor would continue east across Spring Creek and cross the Snake Range in Weaver Creek, just north of Great Basin National Park. There are concerns expressed by the National Park Service and the public about potential visual effects to Great Basin National Park. These concerns include background views from the proposed visitors' center and other proposed scenic vista sites. Outside the park boundaries there are also concerns for park visitors' views while driving to or away from the park along the major access routes and views from the proposed wayside stations near Sacramento Pass and near the Utah-Nevada border. The location of these wayside stations have been identified in Great Basin National Park's Draft General Management Plan, but have not been finalized. They are included for purposes of analysis in this EIS only.

The corridor would cross U.S. Highway 6/50 twice in this area, and then continues east across the Snake Valley. The route would cross south of Eskdale and into the Buckskin Hills. From here this route follows the 230kV corridor as described above for the Cutoff Route. If the line is constructed along this route, Hill AFB is requesting that shorter towers be constructed to reduce the potential for conflict with low-level flying on the UTTR.

Southern Route - The route would head south from the Robinson Summit substation site along the east side of the Jakes Valley, south of Duck Peak, and across the White River Valley. It would cross the Egan Range in Water Canyon and Williams Creek, and then would cross Cattle Camp Wash in the south end of the Steptoe Valley, and north of the Cattle Camp Spring and the Burnt Knoll Spring.

230kV Corridor Route



LEGEND

- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- Forest Service Boundaries
- * Alternative Substation Siting Area

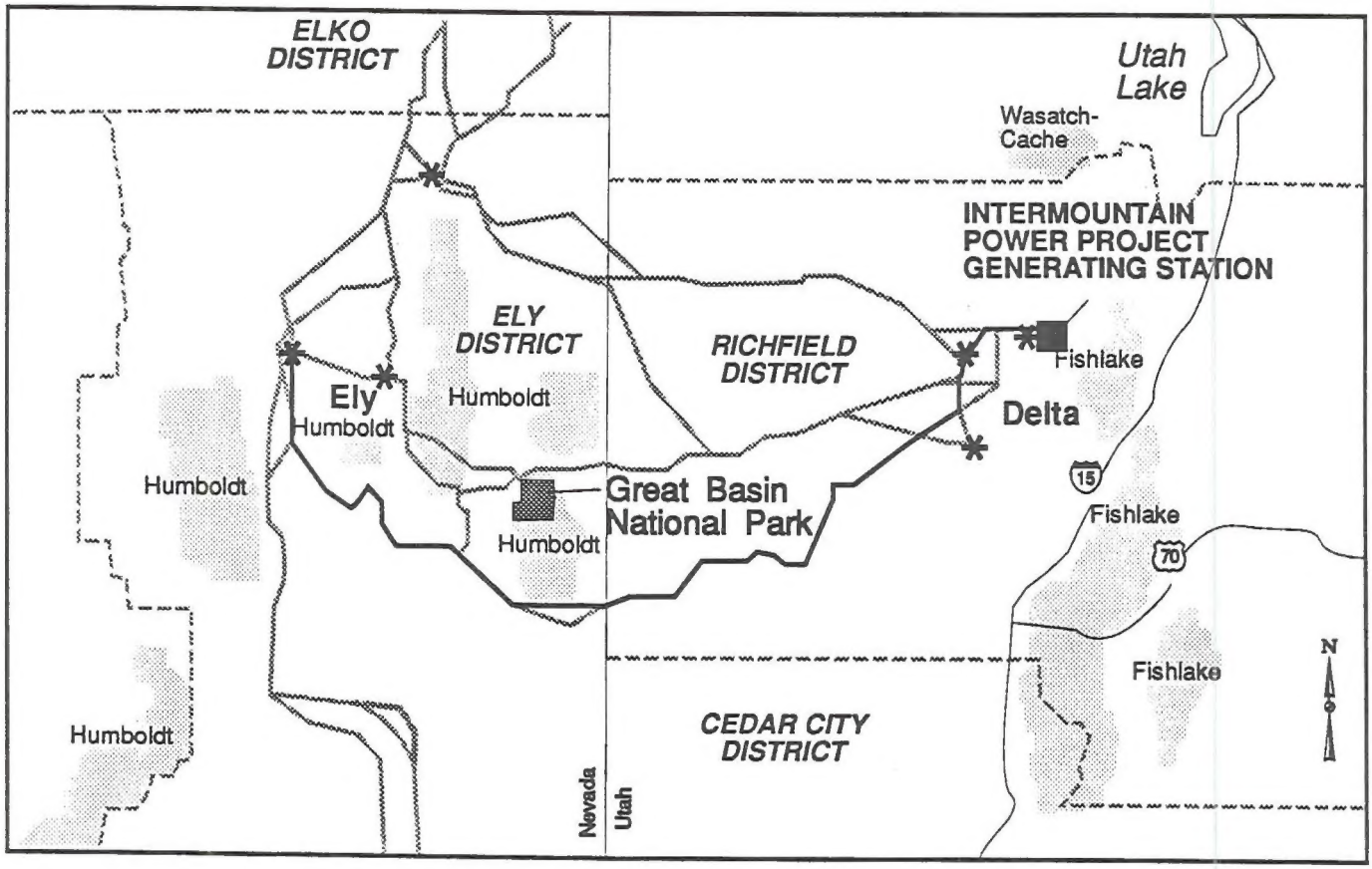
Note: not to scale

Alternative Routes - Ely to Delta

Dames & Moore

Figure OBJ-23

Southern Route



LEGEND

- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- Forest Service Boundaries
- * Alternative Substation Siting Area

Note: not to scale

Alternative Routes - Ely to Delta

It would then cross into the Spring Valley north of the Fortification Range. It would follow across the south end of the Snake Range south of Big Spring, then across the north end of the Mountain Home Range.

In the Antelope Valley Wash, the route would cross Utah State Highway 21 adjacent to the proposed site of a wayside interpretive site (location has not been finalized and is for SWIP analysis only) for the Great Basin National Park. The route would continue northeast through Cowboy Pass, then turning east across the Ferguson Desert north of the Wah Wah Mountains WSA and on through Snake Pass. The route would then pass just south of the King Top WSA and turn sharply north into the Tule Valley at a point south of the Barn Hills. The route would turn to the northeast in Tule Valley and pass south of the Notch Peak WSA near Skull Pass and would cross the Sevier Desert north of Sevier Lake to join the IPP to Adelanto 500kV DC transmission line to the Intermountain Generating Station. Hill AFB has expressed concerns about potential conflicts with low-level flying operations conducted in the UTTR. Shorter towers would be required along several portions of this route with the UTTR.

Substation and Series Compensation Station Sites

Two new substations would be required for the east-west transmission line from Ely to Delta. One of these substations would be located in the Ely, Nevada area (refer to Chapter 2 of the DEIS/DPA). The other substation site would be located near the Intermountain Generating Station. Three substation siting areas were identified in the vicinity of Delta, Utah:

- Sevier - this siting area is located at the north end of the Cricket Mountains near the Old Sevier River, northeast of Sevier Lake
- Smelter Hills - this siting area is located near the Smelter Hills about 15 miles west of Delta, Utah
- Intermountain - this siting area is located adjacent to the Intermountain Generating Station

These siting areas are shown on the route map in the Map Volume that accompanies the DEIS/DPA. A total of four alternative substation sites were identified within these three siting areas. These alternative sites were determined through a siting process which compiled and analyzed environmental and engineering data using GIS, as described previously. Each of these alternative sites was assessed for potential impacts. The selection of a preferred site was determined through an analysis of the potential environmental impacts in conjunction with the transmission line route selection process.

The siting process, inventory, and the impact assessment are described in Appendix E of the DEIS/DPA. In addition, potential resource impacts for each of the alternative substation sites are described in the supporting technical reports (Volumes II, III, and IV).

Communication Facilities

The Ely to Delta portion of the SWIP route would use an existing microwave communications system. LADWP currently operates a microwave system between Ely and Delta for the Gondor to IPP 230kV transmission line. Each of these existing microwave facilities would require some modifications (e.g., new equipment). However, these modifications are not expected to require any ground disturbing activities.

Identification of Preferred Alternatives

Environmentally Preferred Alternatives

Midpoint to Dry Lake

Routes A and E would have the fewest miles of high visual impacts, however, both of these routes would have a large number of miles of moderate visual impacts. Route A also has the second lowest number of miles of high biological impacts. Route A is the environmentally preferred route. Refer to the Map Volume for locations of Route A through G.

Routes B and E are two of the longer routes because they both pass east of the Goshute Mountains. As a result, Route B would have the most miles of high biological impacts, while Route E would have more mileage of moderate impacts to all resources than the other alternative routes.

Although Route C would have the fewest miles of high cultural impacts, this route and Route B would have large numbers of miles of high biological impacts. Both of these routes would disturb sage grouse habitat and leks in the area from Trout Creek to Thousand Springs Valley (Links 91, 92, 140, 141, 142, and 144), which cause the biological impacts for these routes to be somewhat higher than the other alternative routes.

Route G would have the largest mileage parallel to existing transmission lines and would also best use BLM utility corridors. Routes B, C, and F are outside BLM utility corridors where these routes pass through the Trout Creek area into the Thousand Springs Valley, while Routes A, C, D, E, and F are outside BLM utility corridors where they cross the Egan Range through Dry Canyon. Routes C and F would have the greatest mileage outside BLM utility corridors.

Route F, the only route that uses the western links in Idaho, would be the longest of the alternative routes. Because Route F traverses more rural agricultural lands and passes adjacent to the new Hagerman Fossil Beds National Monument, this route has the greatest mileage of high visual impacts to sensitive viewpoints, and therefore would not be environmentally preferred.

Although Route G is the shortest route, it would have the second greatest mileage of high biological impacts. Construction in undisturbed sage grouse habitat in areas south of Jackpot and in Toano Draw contribute to these biological impacts. In addition, Route G has a large number of miles of high visual impacts. For these reasons, Route G also would not be environmentally preferred.

Route D does not pass through the area previously proposed as the Thousand Springs Power Project (TSPP) site, and therefore would not integrate potential regional resources with the SWIP as well as the other routes. The TSPP has been canceled. The final EIS on the project was not released. Should a project be proposed for this site in the future it would be important for regional integration with the SWIP.

Although impacts would not be particularly significant, the BLM has expressed considerable concern for Route D where it passes near Wells, Nevada and for the potential of wet soils and standing water occurring at certain times of the year in the Independence Valley.

In summary, Routes A, C, D, and E would have resource impacts that are very similar. Routes A and D both would better use existing BLM utility corridors. However, Route D would not adequately accommodate the integration of future resources if TSPP or another generation project is developed in the Toano Draw. Subsequently, Route A is the environmentally preferred route between Midpoint Substation and the proposed substation in Dry Lake followed closely by Routes C, D, and E.

The alternative substation sites at Robinson Summit (Sites #9 or #10) are very similar environmentally and there is no distinctive preference (also refer to Appendix E). Site #8 is the only substation site identified within the North Steptoe substation siting area, and therefore would be the preferred environmentally. The alternative substation sites within the Hercules Gap substation siting area is the least preferred substation area for the Midpoint to Dry Lake alternative routes due to potential wetland problems on Link 292 and visual impacts to residences for both Sites #11 and #12. The preference between the alternative substation siting areas is determined mainly by the environmental preference of the routing alternative in or out of the substation site. Therefore, the preferred substation site is either #8 (if Cutoff Route is selected) or #9 or #10 (if the 230kV Corridor Route is selected).

The environmental preference for the U.S. Highway 93 series compensation station siting area (used if Route D is selected) is Site #1, but is only slightly preferred over Site #2, mainly due to cultural resource concerns. The environmental preference for the Thousand Springs series compensation station siting area (could be used if Routes B, C, or F are selected) would be Site #5 due to fewer potential effects to sage grouse. There is a slight environmental preference for Site #6 within the Goshute Valley series compensation station siting area (could be used if Routes A, B, C, E, F, or G are selected), due to lower cultural resource and flood zone concerns. Therefore, the preferred series compensation site is #6, followed closely by Site #5 (if Route C is selected) or site #1 (if Route D is selected)(also refer to Appendix E of the DEIS/DPA).

The final selection of a substation in the Dry Lake area would depend on the routing decision for the future Marketplace-Allen Transmission Project (MAT) proposed by Nevada Power Company (NPC) to connect from this area south to the area of the McCullough

Substation. In 1990 BLM asked IPCo to coordinate the transmission needs through this area with the other regional utilities. Subsequent discussions with NPC and other utilities resulted in the MAT project being proposed.

Although the Mat would be operated by NPC, several other regional utilities would likely be participants in the project. Once completed the MAT would provide a major electrical interconnection point for the inland southwest, with connection points on its north end (Dry Lake substation) and south end (new marketplace substation near McCullough Substation). The approximately 53 mile MAT project would consist of two 500kV lines with a combined capacity of 3000-3500 megawatts. This high capacity rating is possible because of the relatively short distance between the two proposed marketplace substations. The high capacity of this system would allow the planned transmission lines to connect on either end, while minimizing the number of lines through this sensitive area. The MAT is proposed to be in service in 1997.

There are two major potential routing alternatives for this project. The first would run straight south through the Apex development parallel to the proposed Utah-Nevada Transmission Project 500kV line, then cutting southeast to the Gypsum Wash area, then south through Sunrise Mountain and Henderson areas. The second major routing alternative would cross Interstate-15 at the north end of the Dry Lake range and run straight south paralleling the IPP-Adelanto 500kV DC line and the Navajo-McCullough 500kV line to the Sunrise Mountain and Henderson areas.

In the proposed Dry Lake substation siting area, all of the potential substation sites are environmentally acceptable. Substation Sites 17 and 18 are the preferred sites if the route south to MAT travels on the east side and south of the Dry Lake range. Substation sites 18 and 20 are the preferred sites if the route south to MAT travels south through the Apex development (also refer to Appendices D and E of the DEIS/DPA).

There are also no distinctive environmental preferences for the communication path for the Midpoint to Dry Lake alternatives.

The mileage of selectively committed mitigation for the environmentally, agency, and utility preferred routes are documented Table OBJ-16.

Ely to Delta

The Direct Route (refer to the Map Volume accompanying the DEIS/DPA) would be the shortest route for the crosstie routes from Ely to Delta. The major concern for this route, which crosses lands with restricted air space, has been expressed by Hill AFB. Hill AFB is opposed to any structures exceeding 35 feet high through the area of restricted air space along this route. Because this route crosses largely uninhabited public lands, there are fewer significant visual effects. However, both the public and the BLM have expressed serious concern for protecting the undisturbed landscape through which the route passes and other potentially unknown (e.g., cultural sites) or not understood resources (e.g., Leland Harris Spring complex). Because of these high concerns for the Leland Harris spring complex and

military aircraft operations in the Hill AFB's R-6405 Restricted Area, the Direct Route is less preferred environmentally than the Cutoff Route.

The Cutoff Route (refer to the Map Volume accompanying the DEIS/DPA) generally crosses public lands through areas that are mostly uninhabited. Visual impacts are slightly higher than the Direct Route, although the visual impacts are the same in the common portions of the two routes through Spring Valley and the Little Hills area. This route has a similar total mileage of biological resource impacts as the Direct Route. It would also use the existing 230kV corridor for about half of its length. Hill AFB has requested that towers crossing through specific areas of the military operating areas (MOAs) along this route be restricted to a maximum tower height of 105 feet above the ground level. To meet this request while maintaining ground-clearance requirements, the distance between towers would typically be less, and more towers would be required through these areas.

The 230kV Corridor Route (refer to the Map Volume accompanying the DEIS/DPA) would have about the same mileage of significant visual impacts as the Cutoff Route. These significant visual impacts are generally associated with rural residences (e.g., Ely, Hercules Gap, and Sacramento Pass), U.S. Highway 6/50, and both existing and planned recreation viewpoints along the route. Because it follows existing transmission corridors for its entire length the 230kV Corridor Route best satisfies the Federal Land Policy Management Act of 1976 (FLPMA) mandate to "consolidate corridors" where possible. This route also crosses through MOAs of the UTTR of Hill AFB. The cumulative environmental effects of the future WPPP transmission system would not be significantly different regardless of whether the 230kV Corridor Route or the Cutoff Route is selected. Refer to Chapter 4 of the DEIS/DPA for a further discussion on cumulative effects.

The Southern Route (refer to the Map Volume accompanying the DEIS/DPA), the longest crosstie route, has substantially more miles of high cultural and biological impacts than the other crosstie (Ely to Delta) routes. This route also has the second largest mileage of high visual impacts. Because of the Southern Route's greater length and significant impacts, it is the least environmentally preferred of the crosstie routes.

In summary, because of the concerns for the Leland-Harris Spring Complex and the restricted air space of the UTTR for the Direct Route, the Cutoff Route is the environmentally preferred route. However, the 230kV Corridor Route would also be an environmentally acceptable alternative, and is quite similar environmentally to the Cutoff Route. If the Robinson Summit substation site is developed, the 230kV alternative route would be considered environmentally preferred because of the additional miles of transmission system needed to connect the North Steptoe substation site to the Robinson Summit substation site.

The environmentally preferred substation site (Site #14) in the Delta area is located in the Intermountain substation siting area, and is preferred primarily due to lower visual impacts from its proximity to the Intermountain Generating Station. The alternative substation sites at Robinson Summit (Sites #9 or 10) are very similar environmentally and there is no distinctive preference. Site #8 is the only substation site identified within the North Steptoe substation siting area, and therefore would be the preferred, environmentally. The substation site at Hercules Gap is the least preferred of the substation sites for the Ely to Delta alternative routes due to visual impacts to residences and travel routes. The preference

between the alternative substation siting areas is determined mainly by the environmental preference of the routing alternative in or out of the substation site. Therefore, the preferred substation site is #14 in the Delta area and either #8 (if Cutoff Route is selected) or #9 or #10 (if the 230kV Corridor Route is selected). Refer to Appendix E of the DEIS/DPA for additional information on substations and series compensation stations.

There are no new communication facilities anticipated for the crosstie routes.

Mitigation commitments for the environmentally, agency, and utility preferred routes are documented in the Mitigation Summary in Table OBJ-16.

Utility Preferred Alternatives

Midpoint to Dry Lake

IPCo's preferred alternative route from Midpoint to Dry Lake is based primarily on economic considerations and transmission system reliability. IPCo agrees with most segments of the environmentally preferred alternative with one localized route variation.

This variation is the preference of Links 242 and 244 over Links 243, 245, and 261. Route G, as defined in this area, would result in unnecessary additional distance to provide an interconnection to the North Steptoe substation site. If Robinson Summit is developed, and WPPP is developed in the future, a short tap could be constructed to interconnect the two facilities. If the WPPP is not developed, the construction of additional miles of line now would be an unneeded cost and would cause additional environmental impacts. However, if North Steptoe substation site is developed, IPCo recognizes that constructing Links 243, 245, and 261 would be prudent over Links 242 and 244.

IPCo recognizes that the North Steptoe and Robinson Summit substation sites are both environmentally viable, and that the third substation site near Hercules Gap, would have significant environmental issues if developed. Of the two acceptable substation sites, IPCo prefers the Robinson Summit substation site.

The owners of an existing 230kV transmission system in the area have expressed interest in a future interconnection with the SWIP. This potential interconnection with a 230kV system at the Robinson Summit substation site would facilitate developing the Ely area into an open marketplace substation. The owners of the existing 230kV system would not likely choose to extend their 230kV system north to the North Steptoe substation site. Therefore, the construction of the substation at North Steptoe may not eliminate the need for a future substation at Robinson Summit. If Robinson Summit is developed the SWIP line would be designed to accommodate a possible future interconnection with the WPPP.

IPCo selects Route G as the preferred alternative route from Midpoint to North Steptoe with several important variations. The first variation is that Link 102 is selected over the combination of Links 715 and 713 in Route G just north of Contact, Nevada. The SWIP

would cross over the Upper Salmon-Wells 138kV line on the northern end of Link 102. The route needs to stay on the west side of the existing 345kV line until the southern end of Link 102, where it would then cross. Using Links 715 and 713 would make it difficult and more costly to cross the two existing lines.

The second important variation from Route G would occur if the Robinson Summit substation site is developed over the North Steptoe site. This would be the selection of Links 242 and 244 over Links 243, 245, and 261. Route G would provide unnecessary additional distance to provide an interconnection to the North Steptoe substation site. If Robinson Summit is developed, and WPPP is developed in the future, a short SWIP line tap could be constructed to interconnect the two facilities. If WPPP is not developed the construction of additional miles of line now would be an unneeded cost and would cause additional environmental impacts. However, if the North Steptoe substation site is developed, IPCo recognizes that constructing Links 243, 245, and 261 would be prudent over Links 242 and 244.

Route G is selected as the utility preferred route by IPCo from Robinson Summit south to Dry Lake. Route G is the same as Route A (the environmentally preferred route) for this segment.

Additional documentation of IPCo's preferred route is in the SWIP project files.

Mileage of selectively committed mitigation for the environmentally, agency, and utility preferred routes are documented in Table OBJ-16.

Ely to Delta

LADWP, the constructing and operating agent for the crosstie routes from Ely to Delta selects the 230kV Corridor Route as the utility preferred alternative for the reasons stated in the discussion below. The main criteria used by LADWP for their selection of the utility preferred route was system reliability and construction and operation costs. They also considered environmental preferences and the political aspects of each route.

Engineering, material, and construction costs are directly related to the length of the transmission line. Although the Direct Route is nearly 24 miles shorter than the Cutoff Route, 30.7 miles shorter than the 230kV Corridor Route, and 80.9 miles shorter than the Southern Route, the military issues with the restricted air space and the uncertain environmental issues of the Direct Route cause this alternative to be the least desirable alternative.

The impacts to the MOAs have been discussed with the military and can be acceptably mitigated with the use of 105 feet maximum height towers in specified areas of concern. However, as pointed out above, the Direct Route crosses through restricted airspace as well. The military is opposed to any structures over 30 feet maximum height in the Restricted R-6405 Area. It would not be possible to meet the military's wishes and maintain economic or engineering feasibility, or NESC safety criteria.

LADWP preference to construct the proposed line along the 230kV Corridor Route best meets the mandate of the FLPMA to consolidate corridors to the degree possible, and also reflects LADWP's commitment to minimize environmental impacts whenever possible even at reasonable increased project costs. The reliability of the interconnected system would not be impacted by the operation of the proposed 230kV Corridor Route because of the substantial difference in capacity between the existing 230kV lines and the proposed SWIP crosstie line (Ely to Delta). In addition, this configuration would allow for routine line patrol and maintenance on both the 230kV system and the 500kV system simultaneously.

Also, because it is expected that the Midpoint to Dry Lake portion of the SWIP would be constructed before the WPPP or the Ely to Delta portion of the SWIP, and market access is closer to the existing 230kV lines, it is appropriate until the WPPP is built to locate a potential 500/230kV "marketplace" substation at Robinson Summit (also refer to Chapter 2 of the DEIS/DPA).

Additional documentation of LADWP's preferred route is in the SWIP project files.

Mileage of selectively committed mitigation for the environmentally, agency, and utility preferred routes are documented in Table OBJ-16 of the DEIS/DPA.

Agency Preferred Routes

The various offices of BLM, representatives from the Humboldt National Forest, and Great Basin National Park met on June 18, 1991, to select a preferred routing alternative for the SWIP. Criteria considered and used to select the agencies' preference include:

- provide capacity for future utilities
- minimize new access roads needed for construction and operation
- consider public preferences expressed throughout the process
- avoid agricultural lands to the degree possible
- use existing utility and planning corridors
- minimize visual impacts
- minimize impacts to environmental resources (e.g., wildlife, cultural and historical resources)
- minimize conflicts with military airspace
- allow for good transmission system reliability

Midpoint to Dry Lake

The agency preferred route is a combination of Route A and Route G for the Midpoint to Dry Lake portion of the line. Following are the reasons for selecting these routes.

For the segment between Midpoint Substation and the Idaho-Nevada state line, Links 10, 20, 40, 41, 50, and 70 were selected. These link segments would parallel the Midpoint to Valmy

345kV transmission line to the Idaho - Nevada state line. Links 10, 20, 40, 41, and 70 would be on the west and north sides of the existing 345kV line. The assumed centerline of all these links could be easily accessed for construction and operation by existing roads, and would minimize impacts to agricultural uses. Link 20 would avoid direct conflicts with feed lots and several farm structures along Link 30.

From the Idaho-Nevada state line south to the proposed North Steptoe substation site, the agency preferred route would use Links 711, 714, 101, 715, 713, 110, 130, 150, 151, 200, 211, 212, 230, 241, and 242. Visual impacts would be reduced at the crossing of Salmon Falls Creek on Link 711. Link 101 would parallel the existing 138kV line to the west, and would minimize visual impacts from U.S. Highway 93. Links 713 and 110 cross U.S. Highway 93 in a location that would also minimize visual impacts. Link 130 parallels Upper Salmon to Wells the existing 138kV line, and would be the approximate location of the crossing of the existing 345kV line from the west side to the east side. Links 150 and 151 utilize the BLM "planning" corridor. Link 211 uses a better crossing of Interstate 80 than the existing designated BLM utility corridor. Links 212, 230, and 241 follow the BLM designated utility corridor from the Wells Resource Management Plan.

The remainder of the route south to Dry Lake is the same as the environmentally preferred route (refer to the previous section, Environmentally Preferred Alternative).

Mileage of selectively committed mitigation for the environmentally, agency, and utility preferred routes are documented in Table OBJ-16.

Ely to Delta

The agency preferred route for the Ely to Delta portion of the SWIP is the 230kV Corridor Route. Because the 230kV Corridor Route parallels two existing 230kV transmission lines for its entire length, this route best meets the agency criteria and Section 503 of FLPMA of utilizing existing utility corridors to the degree possible. The use of the existing utility corridor by the 230kV Corridor Route also complies with the direction in the BLM's House Range Resource Management Plan (RMP), the Warm Springs RMP, and the Schell Management Framework Plan (MFP). Because the 230kV Corridor Route and the Cutoff Route have similar environmental impacts (refer to environmentally preferred route discussion above and Table OBJ-14) and this route best fulfills FLPMA's mandate to consolidate corridors where possible, the BLM favors the 230kV Corridor Route as the agencies' preferred routing alternative.

Also because of the comment letters received on the various SWIP newsletters and from comments received during the series of public meetings held during the EIS process (refer to Chapter 5 of the DEIS/DPA), the BLM favors the placement of new lines in existing utility corridors to minimize adverse impacts and to maintain open space values in previously undeveloped areas. The Southern Route and Delta Direct Route were least favored by the public. The Cutoff Route was favored by some of the public because it would be in more remote areas and would not be seen by tourists and visitors to Great Basin National Park.

However, the BLM favors avoiding the Cutoff Route, which would pass through areas that are largely undisturbed.

Concerns expressed about the Cutoff Route include resource impacts to biological, cultural, land uses, and visual resources. The public concerns about the 230kV Corridor Route include proximity to homes, health effects, land uses (e.g., agricultural lands near Silver Creek), property value impacts, and visual impacts from Great Basin National Park viewpoints. Because of concern for visual impacts to the park and to visitors driving to the park, Great Basin National Park favors the Cutoff Route (refer to Chapter 4 of the DEIS/DPA).

Mileage of selectively committed mitigation for the environmentally, agency, and utility preferred routes are documented in the Mitigation Summary in Table OBJ-16.

Formal Consultation with Federal Agencies

Biological Resources

To comply with the Endangered Species Act (1973) as amended and the implementing regulations for Section 7 consultation, species lists were requested from the United States Department of the Interior Fish & Wildlife Service (FWS) at the beginning of the EIS process (also refer to the technical report for Biological Resources - Volume II). The following FWS offices were contacted during this process:

- Boise Field Office, Idaho - species list 1-4-89-SP-355 was provided from the Boise field office on August 10, 1989
- Salt Lake City, Utah - species list 1-4-89-SP-355 was provided on August 10, 1989
- Reno, Nevada - species list 1-5-89-SP-143 was provided on July 12, 1989 and species list 1-5-90-SP-308 was provided on July 19, 1990

On July 18, 1991 these same offices were again contacted to supply any updates to the species lists because of the time that had passed since the original requests. Formal Section 7 consultation with the FWS will begin with submittal of a biological assessment for desert tortoise, ferruginous hawk, bald eagle, and peregrine falcon.

Additional information regarding consultation and coordination of biological resources and threatened and endangered species is found in the technical report (Volume II) and the SWIP project files.

Cultural Resources

Compliance for cultural resources stems from the National Historic Preservation Act of 1966 (NHPA) as amended. The regulations implementing Section 106 of the NHPA (36 CFR Part 800) require that the lead federal agency of any federally funded or licensed action must take into account the effects of the agency's undertaking on properties included in or eligible for the National Register of Historic Places. The general thrust of the legislation is to establish a process for identifying impacts of development upon cultural resources and create opportunities for adopting measures to avoid, minimize, mitigate, or accept impacts.

Contacts with the State Historical Preservation Officers (SHPOs) from Idaho, Nevada, and Utah were first begun in 1987 during an environmental resources inventory, and has continued throughout the SWIP DEIS/DPA process. In May 1989 a contact letter and a project map for the SWIP was distributed to agency cultural resource coordinators and Indian Tribes throughout the three states. These contacts included BLM cultural resource specialists and FS cultural resource coordinators.

The contacts made with the Indian tribes in each of the three states and several in adjoining states were to identify sensitive ethnographic sites or areas (also refer to the technical report - Volume IV). Initial contacts with these Native Americans were made in 1987 during an environmental resources inventory completed by Dames & Moore. The letters were followed by phone calls and additional letters, and several meetings were attended, as the contact program progressed. Also, over 50 environmental documents, cultural resources overviews, and key ethnographic and ethnohistoric sources were consulted.

In June 1990 the Advisory Council on Historic Preservation accepted a Programmatic Agreement regarding the treatment of cultural resources for the SWIP. The agreement was established between the BLM (federal lead agency for the EIS preparation), the BOR (cooperating agency), the Humboldt National Forest (cooperating agency), the Idaho SHPO, the Nevada SHPO, the Utah SHPO, and the Advisory Council on Historic Preservation. IPCo, as permitting agent for the SWIP, is a concurring party to the agreement.

Additional information regarding consultation and coordination of cultural resources is found in the technical report (Volume IV) and the SWIP project files.

TABLES

TABLE OBJ-1

Dames & Moore Study Personnel

Name	Title	Project Involvement
Garlyn Bergdale	Project Director	Partner-in-Charge
Jim Jensen	Project Manager	Management and Administration of project
Greg Gault	Assistant Project Manager	Technical Studies Coordinator
A.E. Rogge, PhD	Director of Cultural Resource Services	Cultural Resources Coordinator
Clyde Woods, PhD	Ethnographer	Native American consultation
Paul Friedman	Historian	Historic Resources
Lori Rhodes	Staff Archaeologist	Prehistoric Resources
Dorothy Larson	Asst. Archaeologist	Prehistoric and Ethnohistoric Resources
Barbara Murphy	Staff Geologist	Earth Resources
Charles Condrat	Hydrologist	Earth Resources
E. Linwood Smith, PhD	Director of Biological Resource Services	Biological Resources Coordinator
Carla Alford	Wildlife Biologist	Wildlife Resources
Sherry Ruther	Wildlife Biologist	Wildlife Resources
Kimberly Otero	Botanist	Botanical Resources
Mark Cochran	Wildlife Biologist	Desert Tortoise consultation
Paul Trenter	Landscape Architect	Land Use/Visual Resources
Brian Strand	Landscape Architect	Land Use/Visual Resources

Table OBJ-1 (continued)
Dames & Moore Study Personnel

Name	Title	Project Involvement
Chuck Cornwall	Visual Services	Review photo simulation products
Joe Merkel	Landscape Architect	Photo simulation artist
Martha Rozelle	Director of Public Involvement	Meeting Facilitator
Barbara Lewis	Public Involvement Specialist/Economist	Public participation program and socioeconomics
Randy Palmer	Landscape Architect	Land Use/Visual Resources
Mike Buchenau	Landscape Architect	Land Use/Visual Resources
Beth Defend	Technical Writer	Technical editing
John Qoyawayma	Illustrator	Graphics/illustration
Mitchell Meek	Graphics Manager	Graphics Coordinator
Geoffrey Pool	Environmental Planner	Graphics/illustration
Jim Olsten	Director, GIS Services	Coordinate GIS applications
Dan Moreno	GIS Manager	Designer of GIS models
Luke Heyerdahl	Data Manager	GIS operations/computer graphics
Jackie Rindgen	Data Manager	GIS operations/data management
T. Dan Bracken, PhD	Consultant	Electrical Effects studies
Robert Kavet, PhD	Consultant	Electrical Effects studies

TABLE OBJ-2

Design Characteristics of the 500kV Transmission Line

Line Length	
• Midpoint - Ely - Dry Lake	approximately 500-530 miles
• Ely - Delta	approximately 130-200 miles
Type of Structure	Steel-lattice, guyed towers Tubular-steel, H-frame towers Self-supporting, steel-lattice towers
Structure Height	Average 120 to 130 feet (range 90 to 160 feet)
Span Length	1,000 to 1,500 feet average ruling span
Number of Structures Per Mile	3 to 5
Right-of-Way Width	200 feet
Land Temporarily Disturbed:	
(1) Tower Base:	
• steel-lattice, guyed	200 X 200 feet (0.9 acre)
• tubular-steel, H-frame	200 X 200 feet (0.9 acre)
• self-supporting, steel-lattice	200 X 200 feet (0.9 acre)
(2) Wire-Pulling Sites	200 X 200 feet (0.9 acre) per 2 miles
(3) Wire-Splicing Sites	20 X 50 feet (0.02 acre) per 2 miles
(4) Construction Yards	400 X 540 feet (5 acres) per 20 to 30 miles
(5) Batch Plants	1 to 2 acres per 20 to 30 miles
Land Required Permanently:	
(1) Tower Base:	
• steel lattice guyed	125 X 125 feet approximate dimensions to guy anchors
• tubular steel H-frame	20 X 50 feet approximate dimension
• self-supporting steel lattice	50 X 50 feet approximate dimension
(2) Access Roads (average acres per mile of transmission line):	
• New Roads Required	2.0 acres
• Upgrade Existing Roads	1.5 acres
• Use Existing Roads	0.5 acre

Table OBJ-2 (continued)
Design Characteristics of the 500kV Transmission Line

Voltage	500,000 volts AC
Capacity	1200 MW
Circuit Configuration	Single circuit per structure, three-conductor bundle, (2 or 3 LADWP) per phase with three phases, horizontal configuration
Conductor Size	1781 kcmil (1.602 in. diameter) ACSR (Midpoint to Dry Lake) 2312 kcmil (1.802 in. diameter) ACSR (Ely to Delta)
Maximum Anticipated Electric Field at Edge of Right-of-Way	2.0kV/meter
Magnetic Field at Edge of Right-of-Way	200 milli-Gauss (mG)
NESC Standard for Ground Clearance of Conductor	31 feet minimum at 176° F
Tower Foundations	Drilled piers - cast-in-place concrete or pre-cast pads or inserts

TABLE OBJ-3

Design Characteristics of a Substation and Series Compensation Site

	SUBSTATIONS	SERIES COMPENSATION
Site Size (approx.)	80 acres	15-20 acres
Equipment	•transmission line takeoff structures •power circuit breakers •power transformers •switches equipment •buswork or bus conductor •control house	•electrical towers •series capacitor banks •switching equipment •bus conductors •control house
Access Road • right-of-way width • road Surface • grading	 20' gravel heavy road base to support larger equipment	 20' gravel
Power Source For Construction	Yes, 50 kilowatts	Yes, 50 kilowatts
Fire Protection Facilities	fire wall barriers for protection from transformers	
Building	2200 square feet	1500 square feet
Slopes/Drainage	0.5-1 percent	0.5-1 percent
Substation/Series Compensation Grounding	Use copper wire for personnel safety and grounding	Use copper wire for personnel safety and grounding

Table OBJ-3 (Continued)
Design Characteristics of a Substation and Series Compensation Site

	SUBSTATIONS	SERIES COMPENSATION
Land Temporarily Disturbed	Site specific, all work done within fenced area	Site specific, all work done within fenced area
Land Permanently Disturbed	Site specific grading and drainage, within enclosed area	Site specific grading and drainage, within enclosed area
Voltage	Multiple voltages, can change current from 500kV to 230kV	500kV single voltage

500kV Transmission Station
Electrical Requirements and Ratings

Transfer Capacity - 1500 MVA
Operating Voltage Range - 475-525kV, rms
Bus Capacity @ 525kV, 1650 Amps
Basic Insulation Levels (BIL) - 1500kV for bus support insulation
1800kV for bushings and switch gaps
Phase-to-phase clearances (metal-to-metal) 20-28 feet
Phase-to-ground clearances (metal-to-metal) 10-12 feet
Phase-to-ground clearances (personal Safety) 23 feet minimum
Phase-to-ground clearances (station roadways) 40 Feet minimum

TABLE OBJ-4

Construction Work Force and Equipment

Road Construction - 10 people (including maintenance)

equipment:	2 bulldozers (D-6 or D-8)
	2 motor graders
	2 pickup trucks
	2 water trucks (for construction and maintenance)

Footing Installation - 20 people

equipment:	2 hole diggers
	1 bulldozer (D-6)
	1 truck (2 ton)
	6 concrete trucks
	6 hydro crane (15 ton)
	2 pickup trucks
	2 carry alls
	1 batch plant
	2 dump trucks
	2 wagon drills

Structure Steel Haul - 10 people

equipment:	6 steel haul trucks
	1 yard crane (heavy duty)
	2 pickup trucks

Structure Assembly - 20 people

equipment:	4 carry alls
	4 pickup trucks
	4 cranes (rubber tired)
	4 trucks (2 ton)

Survey - 6 people

equipment:	1 helicopter
	2 pickups

Table OBJ-4 (continued)
Construction Work Force and Equipment

Structure Erection - 10 people

equipment:	2 cranes (60 ton)
	2 pickup trucks
	2 trucks (2 ton)

Conductoring - 40 people

equipment:	1 helicopter and fly ropes
	3 drum pullers (1 light, 1 medium, 1 heavy)
	2 splicing trucks
	2 double-wheeled tensioners (1 light, 1 heavy)
	6 wire reel trailers
	2 diesel tractors
	1 crane (2-4 ton)
	1 sagging equipment
	4 trucks (5 ton)
	6 pickup trucks

Clean-up - 12 people

equipment:	2 pickup trucks
	2 trucks (2 ton)

Road Rehabilitation - 4 people

equipment:	1 bulldozer (D-8)
	2 motor graders
	1 pickup truck

TOTAL PERSONNEL REQUIRED - 150*

*more than 1 contractor may be used simultaneously on difference line segments

TABLE OBJ-5

Generic Mitigation Measures Included In The Project Description

1. All construction vehicle movement outside the right-of-way would normally be restricted to predesignated access, contractor acquired access or public roads.

2. The areal limits of construction activities would normally be predetermined, with activity restricted to and confined within those limits. No paint or permanent discoloring agents would be applied to rocks or vegetation to indicate survey or construction activity limits.

3. In construction areas where recontouring is not required, vegetation would be left in place wherever possible and original contour would be maintained to avoid excessive root damage and allow for resprouting.

4. In construction areas (e.g., marshalling yards, tower sites, spur roads from existing access roads) where ground disturbance is significant or where recontouring is required, surface restoration would occur as required by the landowner or land management agency. The method of restoration would normally consist of returning disturbed areas back to their natural contour, reseeding (if required), cross drains installed for erosion control, placing water bars in the road, and filling ditches.

5. Watering facilities (e.g. - tanks, developed springs, water lines, wells, etc.) would be repaired or replaced if they are damaged or destroyed by construction activities to their predisturbed condition as required by the landowner or land management agency.

6. Towers and/or ground wire would be marked with high-visibility devices where required by governmental agencies (Federal Aviation Administration).

7. On agricultural land, right-of-way would be aligned, in so far as practical, to reduce the impact to farm operations and agricultural production.

8. Prior to construction, all supervisory construction personnel would be instructed on the protection of cultural and ecological resources. To assist in this effort, the construction contract would address: (a) Federal and state laws regarding antiquities and plants and wildlife, including collection and removal; (b) the importance of these resources and the purpose and necessity of protecting them.

9. Cultural resources would continue to be considered during post-EIS phases of project implementation in accordance with the programmatic agreement that would be developed in conjunction with preparation of the EIS. This would involve intensive surveys to inventory and evaluate cultural resources within the selected corridor and any appurtenant impact zones beyond the corridor, such as access roads and construction

equipment yards. In consultation with appropriate land managing agencies and state historic preservation officers, specific mitigation measures would be developed and implemented to mitigate any identified adverse impacts. These may include project modifications to avoid adverse impacts, monitoring of construction activities, and data recovery studies.

10. The Project Sponsors would respond to complaints of line-generated radio or television interference by investigating the complaints and implementing appropriate mitigation measures. The transmission line would be patrolled on a regular basis so that damaged insulators or other line materials that could cause interference are repaired or replaced.

11. The Project Sponsors would apply necessary mitigation to eliminate problems of induced currents and voltages onto conductive objects sharing a right-of-way, to the mutual satisfaction of the parties involved.

12. The Project Sponsors would continue to monitor studies performed to determine the effects of audible noise and electrostatic and electromagnetic fields in order to ascertain whether these effects are significant.

13. Roads would be built as near as possible at right angles to the streams and washes. Culverts would be installed where necessary. All construction and maintenance activities shall be conducted in a manner that would minimize disturbance to vegetation, drainage channels, and intermittent or perennial streambanks. In addition, road construction would include dust-control measures during construction in sensitive areas. All existing roads would be left in a condition equal to or better than their condition prior to the construction of the transmission line.

14. All requirements of those entities having jurisdiction over air quality matters would be adhered to and any necessary permits for construction activities would be obtained. Open burning of construction trash would not be allowed unless permitted by appropriate authorities.

15. Fences and gates would be repaired or replaced to their original predisturbed condition as required by the landowner or the land management agency if they are damaged or destroyed by construction activities. Temporary gates would be installed only with the permission of the landowner or the land management agency; and would be restored to its original predisturbed condition following construction.

16. Transmission line materials would be designed and tested to minimize corona. A bundle configuration (three conductors per phase except for the Ely to Delta segment would be two conductors per phase) and larger diameter conductors would be used to limit the audible noise, radio interference (RI), and television interference (TVI) due to corona. Tension would be maintained on all insulator assemblies to assure positive contact

between insulators, thereby avoiding sparking. Caution would be exercised during construction to avoid scratching or nicking the conductor surface which may provide points for corona to occur.

17. During operation of the transmission line, the right-of-way would be maintained free of non-biodegradable debris.

18. The primary focus of paleontological mitigation efforts should be areas of greatest disturbance and areas likely to have significant fossils.

19. Mitigation measures that will be developed during the consultation period under Section 7 of the Endangered Species Act (1974) will be adhered to as specified in the Biological Opinion of the USDI Fish and Wildlife Service.

20. Hazardous materials shall not be drained onto the ground or into streams or drainage areas. Totally enclosed containment shall be provided for all trash. All construction waste including trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials shall be removed to a disposal facility authorized to accept such materials.

TABLE OBJ-6

Selectively Committed Mitigation Measures

Note: These selective mitigation measures apply only to specific impact locations that were identified in the EIS or during field investigations.

1. No widening or upgrading of existing access roads would be undertaken in the area of construction and operation, except for repairs necessary to make roads passable, where soils and vegetation are very sensitive to disturbance.

2. There would be no blading of new access roads in the area of construction and operation. Existing crossings would be utilized at perennial streams, National Recreational Trails, and irrigation channels. Off-road or cross-country access routes would be used for construction and maintenance. This would minimize ground disturbance impacts. These access routes must be flagged with an easily seen marker and the route must be approved in advance of use by the authorized officer.

3. The alignment of any new access roads or overland route would follow the designated area's landform contours where possible, providing that such alignment does not additionally impact resource values. This would minimize ground disturbance and/or reduce scarring (visual contrast).

4. All new access roads not required for maintenance would be permanently closed using the most effective and least environmentally damaging methods appropriate to that area with concurrence of the landowner or land manager (e.g., stock piling and replacing topsoil, or rock replacement). This would limit new or improved accessibility into the area.

5. Modified tower design or alternate tower type would be utilized to minimize ground disturbance, operational conflicts, visual contrast and/or avian conflicts.

6. In designated areas, structures would be placed so as to avoid sensitive features such as, but not limited to, riparian areas, water courses, and cultural sites, and/or to allow conductors to clearly span the features, within limits of standard tower design. This would minimize amount of sensitive feature disturbed and/or reduce visual contrast.

7. Standard tower design would be modified to correspond with spacing of existing transmission line structures where feasible and within limits of standard tower design. The normal span would be modified to correspond with existing towers, but not necessarily at every location. This would reduce visual contrast and/or potential operational conflicts.

8. At highway, canyon, and trail crossings, towers are to be placed at the maximum feasible distance from the crossing, to reduce visual impacts.

Table OBJ-6 (continued)
Selectively Committed Mitigation Measures

9. Nonspecular conductors would be used, where specified by the authorized officer, to reduce visual impacts.

10. "Dulled" metal finish towers would be used to reduce visual impacts.

11. With the exception of emergency repair situations, right-of-way construction, restoration, maintenance, and termination activities in designated areas would be modified or discontinued during sensitive periods (e.g., nesting and breeding periods) for candidate, proposed threatened and endangered, or other sensitive animal species. Sensitive periods, species affected, and areas of concern would be approved in advance of construction or maintenance by the authorized officer.

12. Helicopter placement of towers would be used to reduce ground disturbance impacts (e.g., soil erosion).

TABLE OBJ-7

Alternative Substation Site Impact Summary

	RESOURCE				
	BIOLOGY	EARTH	LAND USE	CULTURAL	VISUAL
HIGHWAY 93 SERIES COMPENSATION STATION SITES					
SITE 1	No impacts identified	Low impacts to intermittent streams (22 ac.)	Existing 138kV transmission line, 89 acres of sage scrub 89 acres of HD grazing allotment removed from production	Moderate to high impacts to a historic railroad	50 acres of this site visible from U.S.Highway 93, entire site Class C scenic quality, site would not comply with VRM Class II
Site 2	No impacts identified	Low impacts to intermittent streams (22 ac.)	Existing 138kV transmission line, 89 acres of sage scrub 89 acres of Town Creek grazing allotment removed from production	High impacts to cultural viewpoints from the Calif. Trail Moderate to high impacts to a historic railroad	Low impacts to residences, moderate impacts to U.S. Highway 93, Class C scenic quality, VRM Class IV
Site 3	No impacts identified	Low impacts to intermittent streams (22 ac.)	11 acres of sage scrub, 89 acres of Town Creek grazing allotment removed from production	High impacts to cultural viewpoints from the Calif. Trail. Mod. to high impacts to hist. railroad	Low impacts to residences, low impacts to U.S.Hwy 93 small portion of site Class B scenic quality, VRM Class IV
THOUSAND SPRINGS SERIES COMPENSATION STATION SITES					
Site 4	Moderate impacts to Pronghorn Antelope habitat (89 ac.)	Low impact to intermittent streams (28 ac.)	72 acres of sage scrub, 17 acres of HD grazing allotment removed from production	low to moderate impacts to pre-historic isolates and lithic scatters	Entire site Class C scenic quality, VRM Class IV

Table OBJ-7

Alternative Substation Site Impact Summary

	RESOURCE				
	BIOLOGY	EARTH	LAND USE	CULTURAL	VISUAL
THOUSAND SPRINGS SERIES COMPENSATION STATION SITES (Cont.)					
Site 5	No impacts identified	No impacts identified	83 acres sage scrub, 83 acres of HD grazing allotment removed from production	low to moderate impacts to pre-historic isolates and lithic scatters	Entire site Class C scenic quality, VRM Class IV
GOSHUTE VALLEY SERIES COMPENSATION STATION SITES					
Site 6	High impacts to Sage Grouse leks (89 ac.)	Low impact to intermittent streams (22 ac.)	11 acres of grassland, 78 acres of sage scrub 89 acres of Big Springs grazing allotment removed from production	High impacts to a pre-historic antelope trap	Entire site visible from Nevada State Highway 233, Class C scenic quality, VRM Class IV
Site 7	High impacts to Sage Grouse leks (89 ac.)	Low impact to intermittent streams (44 ac.)	adj. to existing railroad, 6 ac. natural bare soil, 28 acres of sage scrub, 56 acres of grassland, 84 acres of Big Springs grazing allotment removed from production	High impacts to a historic railroad and ranch community High impacts to a pre-historic antelope trap	Entire site visible from State Highway 233, entire site Class C scenic quality, VRM Class IV
NORTH STEPTOE SUBSTATION SITE					
Site 8	Moderate impacts to Long-Billed and Sandhill Crane	Low impact to high wind erosion (50 ac.), low impact to shallow ground water (83ac.)	83 acres of grassland, 6 acres of sage scrub 89 acres of Cherry Creek grazing allotment removed from production	No impacts identified	Low impacts to U.S.Hwy. 93, entire site Class C scenic quality, VRM Class III

Table OBJ-7

Alternative Substation Site Impact Summary

	RESOURCE				
	BIOLOGY	EARTH	LAND USE	CULTURAL	VISUAL
ROBINSON SUMMIT SUBSTATION SITES					
Site 9	High impact to Ferruginous Hawk habitat (89 ac.)	No impacts identified	Existing 230kV transmission line, 89 acres of sage scrub 89 acres of Moorman Ranch grazing allotment removed from production	No impacts identified	Entire site visible from U.S. Highway 50, Class B scenic quality, site would not comply with VRM Class II
Site #10	High impact to Ferruginous Hawk habitat (89 ac.)	Moderate impact to intermittent streams (33 ac.)	Existing 230kV transmission line, 89 acres of sage scrub 89 acres of Thirty Mile Spring grazing allotment removed from production	No impacts identified	Entire site visible from U.S. Highway 93, Class C scenic quality, VRM Class III
HERCULES GAP SUBSTATION SITES					
Site 11	Moderate impacts to Long-Billed and Sandhill Crane	No impacts identified	Existing 230kV transmission line, 72 acres of sage scrub, 17 acres of grassland 89 acres of George Town Ranch grazing allotment removed from production	low to moderate impacts to pre-historic isolates and lithic scatters	Low impacts to residences, entire site visible from U.S. Highway 93, Class C scenic quality, VRM Class III
Site 12	Moderate impacts to Long-Billed and Sandhill Crane	Low impacts to high wind erosion (89 ac.)	Existing 230kV transmission line, 89 acres of sage scrub, 89 acres of Copper Flat/W. Schell B grazing allotment removed from production	low to moderate impacts to pre-historic isolates and lithic scatters	Low impacts to residences, entire site visible from U.S. Highway 93, entire site visible from local access road, Class C scenic quality VRM Class III

Table OBJ-7

Alternative Substation Site Impact Summary

	RESOURCE				
	BIOLOGY	EARTH	LAND USE	CULTURAL	VISUAL
INTERMOUNTAIN SUBSTATION SITES					
Site 13	No impacts identified	remove prime farmland from production (44ac.), low impact to intermittent streams (44 ac.), low impact to shallow ground water (44 ac.)	89 acres of sage scrub, existing oil pipeline 89 acres of Smelter Mtn. grazing allotment removed from production	No impacts identified	Low impact to residences, entire site visible from local access road, Class C scenic quality, VRM Class IV
Site 14	No impacts identified	remove prime farmland from production (22ac.), low impact to intermittent streams (72 ac.), low impact to high wind ersion (67 ac.)	83 acres of sage scrub, 6 acres of grassland, 89 acres of McClintock grazing allotment removed from production	No impacts identified	25% of site would be low impact to residences, 75% of site would be moderate impact to residences, entire site is visible from local access road, 75% of site Class C scenic quality, VRM Class IV
SMELTER HILLS SUBSTATION SITE					
Site 15	No impacts identified	No impacts identified	22 acres of sage scrub, 67 acres of grassland, 89 acres of Little Drum grazing allotment removed from production, existing 230kVnd 500kV transmission line	No impacts identified	Class C scenic quality, VRM Class IV

Table OBJ-7

Alternative Substation Site Impact Summary

	RESOURCE				
	BIOLOGY	EARTH	LAND USE	CULTURAL	VISUAL
SEVIER SUBSTATION SITE					
Site 16	No impacts identified	Low impact to shallow groundwater (89 ac.)	89 acres of sage scrub, existing 230kV transmission 89 acres of Deseret grazing allotment removed from production	moderate impact to ethnohistoric habitation resource exploitation areas.	Entire site Class C scenic quality, VRM Class IV
DRY LAKE SUBSTATION SITES					
Site 17	No impacts identified	6 acres of natural bare soil, 72 acres of sage scrub, 12 acres of playa, entire site potential flood area, low impact to high hazardous water erosion	No impacts identified	High impacts to the Historic Old Mormon/ Spanish Trail	Entire site visible from I-15 & US 93, VRM Class IV
Site 18	Moderate impact to *A. triquetrus*	50 acres of sage scrub, 39 acres of playa, 83 acres of potential flood area, 6 acres of alkali flat/ potential flood area	No impacts identified	High impacts to the Historic Old Mormon/ Spanish Trail	Entire site visible from I-15 & US 93, VRM Class IV
Site 19	Moderate impact to Desert Tortoise habitat (89 acres), Moderate impact to *A. triquetrus*	89 acres of sage scrub, low impact to high hazardous water erosion (72 ac.)	Existing 500 kV transmission line	High impacts to the Historic Old Mormon/ Spanish Trail	Entire site visible from I-15 & US 93, entire site visible from cultural viewshed, VRM Class IV

Table OBJ-7

Alternative Substation Site Impact Summary

	RESOURCE				
	BIOLOGY	EARTH	LAND USE	CULTURAL	VISUAL
DRY LAKE SUBSTATION SITES (Cont.)					
Site 20	No impacts identified	89 of sage scrub	No impacts identified	High impacts to the Historic Old Mormon/ Spanish Trail	Entire site visible from I-15 & US 93, entire site visible from cultural viewshed, VRM Class IV

TABLE OBJ-8

Microwave Facilities Sites
Land Use Inventory

SITE	STATE	LOCATION	LAND USE	JURISDICTION	ACCESS	POWER
Hansen Butte	ID	approx. 4.5 to 5 mi. S.E. of Hansen.	existing site	private access to site	public road	yes
Cottonwood	ID	approx. 10.5 to 11 mi. N.E. of Progress.	range and wildlife habitat	Sawtooth Nat'l Forest	*public road access approx. .5 mi. E. & W. of site	**no
Bear	ID	approx. 24 to 25 mi. W. of Magic Hot Springs	range and wildlife habitat	private	* no access	**no
Ellen D	NV	approx. 5.5 to 6 mi. N.W. of Contact.	developed site	BLM	private road access	**no
Rocky Point	NV	approx. 8 to 10 mi N.W. of Oasis. Pequop Mtns.	developed site	private access to site	private road	yes

* Site would need to be accessed by helicopter

** Site would need to be powered by solar source

[1] Will be constructed with Dry Lake Substation

Table OBJ-8 (Continued)
Microwave Facilities Sites Land Use Inventory

SITE	STATE	LOCATION	LAND USE	JURISDICTION	ACCESS	POWER
Six-Mile	NV	approx. 5.5 to 6 mi. E. of Oasis. Pequop Mtns.	range and wildlife habitat	BLM	public road access .25 mi. N of site	no
Proctor	NV	approx. 5 mi. E. of Shafter. Toano Mtn. Range	range and wildlife habitat	private	*private road access approx. .5 mi. E. of site	**no
Spruce Mtn.	NV	approx. 18 to 20 mi. N. of Currie	developed site	BLM	road access to site	**no
Bald Peak	NV	approx. 8 to 10 mi. N.E. of Currie. Dolley Varden Mtns.	developed site	BLM	road access to site	yes
Long Valley	NV	approx. 15 to 20 mi. N.W. of Cherry Cr.	range and wildlife habitat	BLM	*no road access	**no

* Site would need to be accessed by helicopter

** Site would need to be powered by solar source

[1] Will be constructed with Dry Lake Substation

Table OBJ-8 (Continued)
Microwave Facilities Sites Land Use Inventory

SITE	STATE	LOCATION	LAND USE	JURISDICTION	ACCESS	POWER
Copper	NV	approx. 4 to 5 mi. N.W. of Kimberly. Egan Range	developed site	BLM	public road access to site	yes
Raiff	NV	approx. 8 to 10 mi. N.W. of Warm Sp. Egan Range Log Canyon	range and wildlife habitat	BLM	*public road access 1 mi. E. of site	**no
Squaw Peak	NV	approx. 1 mi. N.W. of Ely	developed site	BLM	public road access to site	yes
Cave Mountain	NV	approx. 9 to 10 mi. N. of Majors Place	developed site	Forest Service	Public road to access site	yes
Mt. Wilson	NV	approx. 20 to 22 mi. N. of Pioche	developed site	private	public road access to site	yes
Highland Peak	NV	approx. 8 to 10 mi. S.W. of Pioche Highland Range	developed site	BLM	public road access to site	yes

* Site would need to be accessed by helicopter

** Site would need to be powered by solar source

[1] Will be constructed with Dry Lake Substation

TABLE OBJ-9

Microwave Facilities Sites
Visual Inventory

SITE NAME	VISUAL MANAGEMENT	SCENIC QUALITY
Idaho		
Hansen Butte	Class IV	Class C
Cottonwood	Modification*	Class B
Bear	Class III	Class B
Nevada		
Ellen D	Class III	Class B
Rocky Point	Class III	Class B
Six-mile	Class IV	Class B
Proctor	Class II	Class B
Spruce Mtn.	Class III	Class B
Bald Peak	Class III	Class B
Long Valley	Class IV	Class B
Copper	Class III/IV	Class B
Raiff	Class IV	Class B
Squaw Peak	Class III	Class B
Cave Mountain	Modification*	Class B
Mount Wilson	Class II	Class A
Highland Peak	Class II	Class A

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* Forest Service Visual Quality Objective (VQO)

TABLE OBJ-10

Microwave Facilities Sites
Biological Resources Inventory

SITE NAME	VEGETATION	WILDLIFE
Idaho		
Hansen Butte	grassland w/bare soil,	none known or sparsely vegetated areas
Cottonwood	mountain shrub/grasses	burrowing owls within vegetation two miles of site
Bear	mountain shrub/grasses	springs present - no agency data
Nevada		
Ellen D	sage scrub & mountain shrub vegetation deer winter & crucial pronghorn summer habitats	Rocky Mtn Bighorn sheep, crucial mule
Rocky Point	sage scrub w/mountain shrub vegetation and areas of bare or sparsely vegetated ground	sage grouse, crucial pronghorn summer habitat, mule deer year long habitat
Six-Mile	sage scrub w/mountain shrub/grass habitat	mule deer year long habitat
Proctor	sage scrub habitat	year long pronghorn & mule deer habitat; ferruginous hawk nesting in vicinity

Table OBJ-10 (continued)
Microwave Facilities Sites Biological Resources Inventory

SITE NAME	VEGETATION	WILDLIFE
Spruce Mtn.	mix of mtn. shrub/grass vegetation	bald eagle roost 1.5 miles S.W. of site, mule deer summer habitat, & adjacent crucial winter habitat
Bald Peak	sage scrub, grassland & mtn. shrub/grassland vegetation	year long mule deer and pronghorn habitat
Long Valley	mtn. shrub/grass vegetation	crucial water source; habitat for mule deer, sage grouse & wild horses
Copper	sage scrub & grass vegetation	ferruginous hawk nesting habitat in vicinity
Raiff	sage scrub w/mountain shrub/grass & grassland habitat	crucial water source; mule deer, sage grouse and antelope within vicinity
Squaw Peak	sage scrub w/ sparsely vegetated ground	long-billed curlew, sandhill crane and ferruginous hawk habitat in the vicinity
Cave Mountain	grassland & sage scrub	bald eagle winter range, elk/deer summer habitat
Mount Wilson	mnt shrub/grasses with some natural bare soil	Key summer range for mule deer/elk, sage and blue grouse habitat.
Highland Peak	sensitive plant habitat- Jamesia tetrapetala (3c)	mule deer

TABLE OBJ-11

Microwave Facilities Sites
Earth Resources Inventory

SITE	STATE	GEOLOGY	PALEONTOLOGY	MINERALS	SOILS
Hansen Butte	ID	Gray olivine basalt (Qbh)	Low to moderate sensitivity	No known mineral resources	Deep, silt loam soils
Cottonwood	ID	Idavada volcanics, rhyolite and latite, lava, flows and welded tuff (TIV)	Unevaluated for vertebrate fossils; moderate sensitivity for invertebrate fossils	No known mineral resources	Soils formed from welded tuff, andesite, and basalt
Bear	ID	Idavada Volcanics, rhyolite and latite, lava, flows and welded tuff (Tiv)	Unevaluated for vertebrate fossils; moderate sensitivity for invertebrate fossils	No known mineral resources	Soils formed from basalt, welded tuff, and intermediate igneous rocks
Ellen D	NV	Limestone, dolomite, shale (PMc)	Moderate sensitivity	Low mineral potential	Very deep, well-drained soils
Rocky Point	NV	Limestone, sparse dolomite, siltstone, sandstone (Ppc)	Moderate sensitivity, Paleozoic fossils possible	Low mineral potential	Shallow to moderately deep, well-drained soils
Six Mile	NV	Shale, siltstone, sandstone, chert-pebble conglomerate, limestone (Mds)	Low sensitivity, Paleozoic fossils possible	Low mineral potential	Shallow to moderately deep, well-drained soils
Proctor	NV	Limestone, sparse dolomite, siltstone, sandstone (Ppc)	Moderate sensitivity, Paleozoic fossils possible	Low mineral potential	Shallow to moderately deep, well-drained soils
Spruce Mtn.	NV	Dolomite, limestone, minor amounts of sandstone and quartzite (Dc)	Low sensitivity Paleozoic fossils possible;	A mine within 0.5 miles; moderate mineral potential	Shallow to moderately deep, well-drained soils

Table OBJ-11 (Continued)
Microwave Facilities Sites Earth Resources Inventory

SITE	STATE	GEOLOGY	PALEONTOLOGY	MINERALS	SOILS
Bald Peak	NV	Siltstone, sandstone, limestone and dolomite (commonly silty or sandy), and gypsum (Psc)	Moderate sensitivity, Paleozoic fossils possible	Mine within 0.5 miles; moderate mineral potential	Shallow to moderately deep, well-drained soils
Long Valley	NV	Andesite and related rocks of intermediate composition, flows and breccias (Ta1)	Low sensitivity	Low mineral potential	Well-drained, stony, carbonatic soils
Copper	NV	Siltstone, sandstone, limestone and dolomite (commonly silty or sandy), and gypsum (Psc)	Moderate sensitivity, Paleozoic fossils possible	Low mineral potential	Well-drained, stony, carbonatic soils
Raiff	NV	Limestone, dolomite, shale, siltstone (Cc)	Moderate sensitivity, Paleozoic fossils very possible	Low mineral potential	Well-drained, stony, carbonatic soils
Squaw Peak	NV	Dolomite, limestone, minor amounts sandstone, quartzite (Dc)	Low sensitivity, Paleozoic fossils possible	Mines near area, moderate mineral potential	Well-drained, stony, carbonatic soils
Cave Mountain	NV	Quartzite and shales, lower part of Cambrian (Cl)	Paleozoic fossils unlikely; low sensitivity	No known mineral resources, gold and tungsten mines approx. 1 mile southwest of site	Calcic, well drained, loamy-skeletal, stony, carbonic soils
Mount Wilson	NV	Tertiary tuffs and tuffaceous sediments (Tvt)	Paleozoic fossils unlikely; low sensitivity	No known mineral resource	Rockland, and shallow, well-drained, moderately steep to steep soils
Highland Peak	NV	Highland Peak Formation - limestone and dolomite (Chp)	Paleozoic fossils including trilobites likely	No known mineral resource; site located at southern end of Highland Mining District - hardrock minerals	Rockland and shallow, well-drained moderately steep to steep soils

TABLE OBJ-12

Microwave Facilities Sites
Cultural Resources Inventory

SITE NAME	INVENTORY	SENSITIVITY/IMPACT
Idaho		
Hansen Butte	no cultural sites	no impacts
Cottonwood	no cultural sites	no impacts
Bear	no cultural sites	no impacts
Nevada		
Ellen D	no cultural sites	no impacts
Rocky Point	no cultural sites	no impacts
Six-mile	no cultural sites	no impacts
Proctor	no cultural sites	no impacts
Spruce Mtn.	no cultural sites	no impacts
Bald Peak	no cultural sites	no impacts
Long Valley	no cultural sites	no impacts
Copper	no cultural sites	no impacts
Raiff	no cultural sites	no impacts
Squaw Peak	no cultural sites	no impacts
Cave Mountain	no cultural sites	no impacts
Mount Wilson	no cultural sites	no impacts
Highland Peak	no cultural sites	no impacts

TABLE OBJ-13

Impact Summary for Alternative Microwave Facilities Sites

	BIOLOGY	EARTH	LAND USE	CULTURAL	VISUAL
HANSEN BUTTE	no impacts	no identifiable impacts	facility near Chevron & Northwest Oil Pipeline	low impact	low impacts
COTTON WOOD	low impact to burrowing owl habitat	no identifiable impacts	Approx. 0.5 miles of new roads & approx. 3/4 acre range land removed from production	low impact	low impacts
BEAR	Potential impacts to springs & wildlife water source	no identifiable impacts	1/4 acre range removed from production	low impact	low impacts
ELLEN D	Mod/High impacts to Rocky Mtn. sheep & mule deer habitat	no identifiable impacts	existing electronic site, no impact	no identifiable impacts	no identifiable impacts
ROCKY POINT	moderate impacts to sage grouse & pronghorn antelope habitat	no identifiable impacts	existing electronic site, no impact	no identifiable impacts	no identifiable impacts
SIX MILE	mod impact to mule deer	no identifiable impacts	1/4 acre range removed from production	low impact	low impacts
PROCTOR	High impact to ferr. hawk if nest is active. Mod impact to big game area	no identifiable impacts	1/4 acre range removed from production	low impact	low impacts

Table OBJ-13 (Continued)
Impact Summary for Alternative Microwave Facilities Sites

	BIOLOGY	EARTH	LAND USE	CULTURAL	VISUAL
SPRUCE MTN.	mod/high impact into crucial mule deer hab. & potential disturbance of of bald eagle winter roost	low impacts to hardrock minerals	existing electronic site, no impact	no identifiable impacts	no identifiable impacts
BALD PEAK	mod/high impact to big game	no identifiable impacts	existing electronic site, no impact	no identifiable impacts	no identifiable impacts
LONG VALLEY	mod/high spring habitat altered/degraded	no identifiable impacts	1/4 acre range removed from production	low impact	low impacts
COPPER	low/mod impact to ferr. hawk nest if active in site	no identifiable impacts	existing electronic site, no impact	no identifiable impacts	no identifiable impacts
RAIFF	mod/high impact to crucial watering area, visited by wildlife & wild horses	no identifiable impacts	1/4 acre range removed from production	low impact	low impacts
SQUAW PEAK	Mod/high spring habitat through alteration & degradation	low impact to minerals	1/4 acre range removed from production	low impact	low impacts
CAVE MOUNTAIN	low impacts to bald eagle & elk winter habitat	low impact to hardrock minerals	existing electronic site, no impact	no identifiable impacts	no identifiable impacts
MOUNT WILSON	no data	no identifiable impacts	existing electronic site, no impact	no identifiable impacts	no identifiable impacts
HIGHLAND PEAK	low impacts to mule deer	no identifiable impacts	existing electronic site, no impact	no identifiable impacts	low impacts

TABLE OBJ-14

Route Comparison Table - Midpoint to Dry Lake Routes

	Route A*	Route B	Route C	Route D	Route E	Route F	Route G	Utility	Agency
Construction Access Levels (miles crossed)									
Agricultural lands	16.8	16.8	16.8	16.8	16.8	22.0	16.8	16.8	16.8
Existing access with spur roads	211.0	215.1	208.1	212.6	213.1	210.7	207.0	206.8	201.9
New access roads in flat (0-8%) terrain	152.5	130.1	151.0	155.6	134.2	157.0	163.2	162.7	165.3
New access roads in rolling (8-35%) terrain	92.4	109.1	91.4	89.6	111.4	89.4	85.1	84.8	86.1
New access roads in steep (35-65%) terrain	40.3	45.0	39.6	38.9	48.2	36.9	32.6	30.5	33.0
NATURAL ENVIRONMENT									
WILDLIFE (miles crossed)									
Desert tortoise habitat	52.1	52.1	52.1	52.1	52.1	52.1	52.1	52.1	52.1
Bald eagle nesting	15.3	32.8	16.3	5.8	18.2	16.3	19.6	19.6	6.0
Peregrine falcon	0	23.1	0	0	23	0	0	0	0
Ferruginous hawk nest	1.3	1.4	1.3	1.3	1.3	1.3	1.4	1.4	1.3
Sage grouse leks or winter range	35.2	36.8	30.7	34.1	36.3	32.8	40.6	42.2	37.2
Crucial Elk habitat	0	0	0	0	0	0	0	0	0
Bighorn sheep habitat and movement corridor	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Crucial pronghorn habitat	24.1	7.2	16.2	34.9	18.6	16.5	39.7	39.7	43.2
Crictical Mule deer habitat	22.8	27.4	24.4	25.1	25.8	24.4	22.7	22.7	22.7
VEGETATION (miles crossed)									
Rare plants	1.3	1.3	1.3	1.3	1.3	4.2	1.3	1.3	1.3
Grasslands	109.1	97.3	96.3	97.3	116.3	110.2	97.8	98.6	104.8
Sage scrub	314.3	331.2	320.6	319.8	320.0	317.4	312.4	308.8	303.9
Mojave desert scrub	55.8	55.8	55.8	55.8	55.8	55.8	55.8	55.8	55.8
Woodland/mountain shrub/grasses	3.6	4.1	3.7	3.6	3.6	1.9	4.1	4.1	3.7
Riparian	3.2	3.2	3.7	5.3	3.3	3.8	4.8	4.5	5.1
EARTH RESOURCES (miles crossed, except as noted**)									
Prime/Unique farmland	21.4	21.2	21.2	21.4	21.4	32	21.1	21.1	21.1
High water erosion potential soils	39.0	53.1	44.4	35.5	48.6	47.8	36.4	36.4	37.3
High wind erosion potential soils	58.8	58.9	58.8	52.1	64.3	73.3	46.7	44.1	49.5
Flood hazard areas	6.2	1.2	2.1	3.1	4.1	1.8	3.1	3.1	3.1
Landslide hazard areas	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.0
High paleontological sensitivity areas	23.8	38.6	35.3	21.9	25.5	37.4	30.6	19.4	20.5
Number of springs within 1/2 mile of route**	42	20	20	45	17	17	45	45	45
Number of perrenial streams crossed**	26	27	23	22	22	8	27	20	20

* Environmentally Preferred Route

Note: Totals for the Utility and Agency preferred routes vary from Route G because several different alternative routes segments are used (refer to p. 2-54).

TABLE OBJ-14, Route Comparison Table - Midpoint to Dry Lake Routes (continued)

	Route A*	Route B	Route C	Route D	Route E	Route F	Route G	Utility	Agency
HUMAN ENVIRONMENT									
LAND JURISDICTION (miles crossed)									
Bureau of Land Management	412.5	413.6	397.1	409.6	430.0	406.1	414.5	409.4	409.9
Forest Service	0	0	0	0	0	0	0	0	0
State	5.2	5.2	5.2	5.2	5.2	2.3	5.2	5.2	5.2
Private	95.2	97.3	104.6	98.7	88.5	115.6	85.3	87.0	88.0
Bureau of Reclamation	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
LAND USE (miles crossed, except as noted**)									
Miles within 1 mile of wilderness study areas	32.8	50.6	32.6	47.3	50.6	42.3	32.8	32.8	32.8
Approximate number of residences within 1 mile**	83	78	80	83	83	94	93	92	96
Miles parallel to H-frame 69kV transmission line	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0
Miles parallel to H-frame 138kV transmission line	30.0	5.9	5.9	50.8	39.9	5.9	14.2	14.2	14.2
Miles parallel to H-frame 230kV transmission line	0	0	0	0	0	25.0	0	0	0
Miles parallel to 345kV transmission line	96.5	73.0	73.0	80.0	96.5	33.5	96.5	96.5	96.5
Miles parallel to 500kV transmission line	0	0	0	0	0	27.5	0	0	0
Miles within designated or planning utility corridor	341.8	358.1	335.4	328.7	312.9	387.9	343.5	340.1	320.0
Miles outside designated or planning utility corridor	136.1	116.4	136.1	151.3	175.7	136.4	161.5	161.5	183.1
Miles within Military Operating Area/Restricted Area	130.0	182.0	130.0	128.4	182.0	130.0	130.0	130.0	130.0
Agricultural lands	16.8	16.8	16.8	16.8	16.8	22.0	16.8	16.8	16.8
Range allotments	491.9	493.0	485.8	492.4	502.6	507.3	473.2	472.1	470.4
Mining claims	38.0	65.2	39.5	48.3	61.0	32.5	36.8	36.6	35.9
Number of tanks and wells along centerline**	11	10	11	12	11	10	10	10	10
Number of corrals along centerline**	0	1	0	0	1	0	1	1	1
VISUAL RESOURCES (miles crossed, except as noted**)									
Number of scenic highways and roads crossings**	1	1	1	1	1	2	1	1	1
Route visible from residences within 1 mile	65.7	52.3	57.1	61.9	64.1	56.9	59.9	59.9	63.1
Scenic quality Class A landscapes	0.9	0.9	0.9	0.9	0.9	5.0	0.5	0.5	0.5
VRM Class II landscapes	7.3	17.8	5.6	10.0	19.5	7.5	8.1	8.1	8.1
CULTURAL ENVIRONMENT									
CULTURAL RESOURCES (miles crossed, except as noted**)									
Number of historic sites within 1 mile of route**	53	46	50	68	46	54	61	61	58
Number of ethnohistoric sites within 1 mile of route**	13	16	14	12	15	16	14	14	14
Number of prehistoric sites within 1 mile of route**	388	413	408	430	386	510	399	388	381
Number of other cultural sites within 1 mile of route**	9	8	7	12	11	6	9	10	9
Miles through predicted high cultural sensitivity zones	18.4	19.3	17.2	20.5	18.4	11	20.6	20.5	18.4
Oregon Trail crossings**	1	1	1	1	1	1	1	1	1
California Immigrant Trail crossings**	3	1	2	3	2	3	2	3	3
Pony Express Trail crossings**	1	2	1	1	1	1	1	1	2

* Environmentally Preferred Route

Note: Totals for the Utility and Agency preferred routes vary from Route G because several different alternative routes segments are used (refer to p. 2-54).

Table OBJ-14, Route Comparison Table - Midpoint to Dry Lake Routes (continued)

SUMMARY OF ENVIRONMENTAL CONSEQUENCES

	Route A*			Route B			Route C			Route D			Route E			Route F			Route G			Utility			Agency		
Impact Value	**High**	**Mod**	**Low**	**High**	**Mod**	**Low**	**High**	**Mod**	**Low**	**High**	**Mod**	**Low**	**High**	**Mod**	**Low**	**High**	**Mod**	**Low**	**High**	**Mod**	**Low**	**High**	**Mod**	**Low**	**High**	**Mod**	**Low**
VISUAL RESOURCES	13.5	72.7	427.0	14.5	62.6	439.2	14.5	66.8	425.8	13.5	68.5	431.4	13.5	71.7	438.7	19.5	71.0	433.7	14.7	65.4	424.9	14.9	67.5	419.5	14.9	70.7	417.8
BIOLOGICAL RESOURCES	15.0	36.5	200.3	26.2	24.2	204.2	20.4	25.6	181.7	13.5	48.4	214.6	17.8	34.8	221.2	17.8	27.2	177.7	24.8	41.0	191.7	25.6	45.0	206.4	22.6	42.5	206.9
CULTURAL RESOURCES	6.8	104.0	131.6	7.4	117.4	142.2	5.9	106.1	138.5	6.6	124.8	140.2	7.8	122.2	134.5	8.2	103.9	143.2	7.3	105.0	132.5	7.5	102.1	261.9	7.0	109.0	132.2
LAND USE RESOURCES	0	64.1	88.8	0	75.2	129.6	0	64.1	88.9	0	64.1	87.6	0	75.5	129.5	0	64.1	101.2	0	64.1	88.4	0	63.8	71.0	0	63.8	71.0
EARTH RESOURCES	0	46.7	454.3	0	50.6	453.5	0	45.0	449.9	0	46.9	452.4	0	54.6	455.3	0	45.4	465.4	0	40.9	456.4	0	23.3	473.7	0	25.5	471.2

COMMENTS

Route A
- least impacts to ferruginous hawks
- least miles of riparian habitat crossed
- most residences within one mile
- crosses most miles of sage grouse habitat

Agency Preferred Route
- reduces visual impacts to U.S. Highway 93
- crosses most miles of crucial pronghorn habitat
- crosses high mileage of sage grouse habitat

Utility Preferred Route
- crosses least steep terrain
- reduces visual impacts to U.S. Highway 93
- crosses most miles of sage grouse leks

Route B
- crosses least miles of riparian habitat
- crosses most miles of bald eagle nesting areas
- least mileage visible from residences
- most mileage in high erosion potential soils

Route C
- crosses least miles of sage grouse habitat
- crosses least miles of BLM-administered lands
- crosses least miles of VRM Class II landscapes

Route D
- crosses most miles of riparian habitat
- least mileage in high erosion potential soils
- crosses high mileage of sage grouse habitat

Route E
- crosses most BLM-administered lands
- crosses high mileage of sage grouse habitat
- most impacts to peregrine falcon

Route F
- visual impacts to Hagerman Fossil Beds National Monument
- crosses most agricultural land
- crosses most private lands
- most cultural sites within one mile

Route G
- reduces visual impacts to U.S. Highway 93
- crosses least miles of private land
- crosses high mileage of crucial pronghorn habitat

	Route A*	Route B	Route C	Route D	Route E	Route F	Route G	Utility	Agency
ESTIMATED COST									
Estimated cost (x millions)	**248**	**251**	**245**	**248**	**254**	**253**	**244**	**242**	**243**
ROUTE LENGTH									
Total Route Mileage	**513.0**	**516.1**	**506.9**	**513.5**	**523.7**	**524.0**	**504.7**	**503.1**	**501.6**
ENVIRONMENTALLY PREFERRED ROUTE									
Ranking	**1**	**4**	**2**	**2**	**2**	**5**	**3**	**3**	**3**

* Environmentally Preferred Route

Note: Totals for the Utility and Agency preferred routes vary from Route G because several different alternative routes segments are used (refer to p. 2-54).

TABLE OBJ-15

Route Comparison Table - Ely to Delta Routes

	Direct Route	Cutoff Route**	230kV Corridor Route***	Southern Route
Construction Access Levels (miles crossed)				
Agricultural lands	0	0	2.1	0
Existing access with spur roads	35.0	39.9	59.1	55.7
New access roads in flat (0-8%) terrain	38.5	50.2	49.1	73.3
New access roads in rolling (8-35%) terrain	44.8	46.4	34.9	60.8
New access roads in steep (35-65%) terrain	17.5	17.4	15.6	21.2
NATURAL ENVIRONMENT				
WILDLIFE (miles crossed)				
Desert tortoise habitat	0	0	0	0
Bald eagle nesting	7.0	8.4	17.8	0
Peregrine falcon	0	0	0	0
Ferruginous hawk nest	0	0	4.5	10.1
Sage grouse leks or winter range	7.9	6.8	7.1	11.8
Crucial Elk habitat	0	0	5.5	0
Bighorn sheep habitat and movement corridor	0	0	0	0
Crucial pronghorn habitat	56.5	70.1	71.5	85.7
Crictical Mule deer habitat	12.3	11.0	14.1	12.5
VEGETATION (miles crossed)				
Rare plants	0	0	0	3.0
Grasslands	27.3	33.2	36.0	27.0
Sage scrub	83.3	100.9	104.5	155.0
Woodland/mountain shrub/grasses	0.6	0.5	3.5	7.0
Riparian	1.6	1.2	0.9	0.1
EARTH RESOURCES (miles crossed, except as noted*)				
Miles of high water erosion hazard soils crossed	14.4	22.1	31.2	17.1
Miles of high wind erosion hazard soils crossed	8.6	12.6	19.2	40.1
Number of springs within 1/2 mile of route*	2	2	6	12
Number of perrenial streams crossed*	0	0	4	3
Miles of flood hazard areas crossed	0	0	0	0
Miles of landslide hazard areas crossed	0	0	0.6	0
Areas of high paleontological sensitivity	55.5	55.6	64.9	84.7

** Environmentally Preferred Route
*** Utility and Agency Preferred Routes

Table OBJ-15, Route Comparison Table - Ely to Delta Routes (continued)

	Direct Route	Cutoff Route*	230kV Corridor Route**	Southern Route
HUMAN ENVIRONMENT				
LAND JURISDICTION (miles crossed)				
Bureau of Land Management	125.7	143.4	131.0	197.4
Forest Service	0	0	9.0	0
State	7.2	10.5	9.0	12.0
Private	0	0	11.8	1.6
LAND USE (miles crossed)				
Miles within 1 mile of wilderness study areas	0	13.8	12.3	14.1
Number of residences within 1 mile	0	2	26	0
Miles parallel to H-frame 69kV transmission line	0	0	34.5	0
Miles parallel to H-frame 230kV transmission line	11.3	72.3	159.8	18.5
Miles parallel to 500kV transmission line	12.8	20.0	20.0	31.0
Miles within designated or planning utility corridor	26.7	78.0	163.0	213.5
Miles outside designated or planning utility corridor	102.9	78.1	0	0
Miles within military operating area/Restricted Area	104.2	123.0	79.0	102.5
Agricultural lands	0	0	2.1	0.1
Prime/Unique farmlands	0	0	1.2	0
Range allotments	135.1	153.9	151.9	211.0
Mining claims	7.8	6.9	28.7	1.9
Number of tanks and wells along route*	1	0	1	0
Number of corrals along route*	0	0	0	0
VISUAL RESOURCES (miles crossed, except as noted*)				
Number of scenic highway or road crossings*	0	0	0	1
Mileage of route visible from residences within 1 mile	3.3	5.1	23.9	4.8
Scenic quality Class A landscapes crossed	0	4.2	4.2	0
VRM Class II landscapes crossed	0	0	0	2.0
CULTURAL ENVIRONMENT				
CULTURAL RESOURCES (miles crossed, except as noted*)				
Number of historic sites within 1 mile of route*	4	5	12	8
Number of ethnohistoric sites within 1 mile of route*	8	8	8	10
Number of prehistoric sites within 1 mile of route*	21	26	80	66
Number of other cultural sites within 1 mile of route*	1	1	1	1
Miles through predicted high cultural sensitivity zones	0.8	0.8	8.0	6.0
Pony Express Trail crossings*	1	1	0	0

** Environmentally Preferred Route

*** Utility and Agency Preferred Routes

Table OBJ-15, Route Comparison Table - Ely to Delta Routes (continued)

	Direct Route			Cutoff Route**			230kV Corridor Route***			Southern Route		
SUMMARY OF ENVIRONMENTAL CONSEQUENCES												
Impact Value	*High*	*Mod*	*Low*	*High*	*Mod*	*Low*	*High*	*Mod*	*Low*	*High*	*Mod*	*Low*
VISUAL RESOURCES	0.6	6.4	128.1	1.2	13.7	139.0	7.3	31.6	121.8	4.1	22.5	183.1
BIOLOGICAL RESOURCES	4.7	5.1	82.2	5.8	7.7	94.1	0.4	12.4	117.3	10.3	17.7	120.8
CULTURAL RESOURCES	4.6	19.1	16.3	4.6	32.7	21.4	5.5	39.7	44.5	11.6	41.7	48.0
LAND USE RESOURCES	0.0	65.3	38.9	0.0	0.0	123.0	0.0	0.0	80.9	0.0	0.0	103.2
EARTH RESOURCES	0.0	8.4	125.9	0.0	7.8	144.0	0.0	6.9	152.7	0.0	2.4	200.2

COMMENTS

Direct Route
- shortest route
- avoids visual impacts to Great Basin National Park
- crosses Leland-Harris spring complex
- crosses through R-6405 Restricted Area of UTTR
- crosses least aricultural lands
- crosses least miles of crucial pronghorn habitat

Cutoff Route**
- crosses least aricultural lands
- avoids visual impacts to Great Basin National Park
- crosses least mileage of sage grouse habitat

****Environmentally Preferred Route**
(and preferred by National Park Service)

230kV Corridor Route***
- best utilizes the existing utility corridor
- crosses most miles of bald eagle nesting areas
- crosses high mileage of crucial pronghorn habitat
- most residences within 1 mile
- crosses most national forest lands and private land

Southern Route
- longest route and most miles in steep terrain
- highest overall environmental impacts
- crosses most BLM-administered lands
- least miles in military operating areas of UTTR

*****Agency and Utility Preferred Route**

	Direct Route	Cutoff Route**	230kV Corridor Route***	Southern Route
ESTIMATED COST				
Estimated cost (x million)	66	72	77	100
ROUTE LENGTH				
Total Route Mileage	132.9	153.9	160.8	211.0
ENVIRONMENTALLY PREFERRED ROUTE				
Ranking	3	1	2	3

TABLE OBJ-16
Summary of Selectively Committed Mitigation

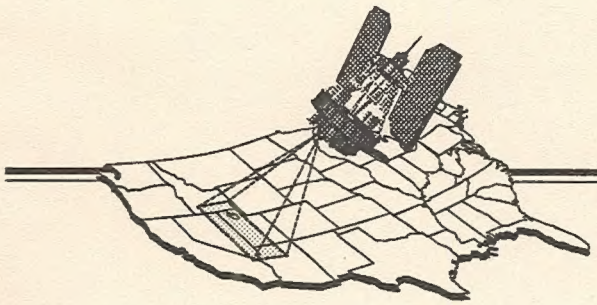
Midpoint to Dry Lake Routes

Alternative	Mitigation Measures* (miles)											
	1	2	3	4	5	6	7	8	9	10	11	12
*Route A***	140.5	202.5	204.0	165.4	102.7	158.3	0	17.4	334.0	92.1	89.6	2.2
Route B	142.2	201.2	212.1	181.3	113.8	179.9	0	11.9	335.4	109.5	93.6	5.3
Route C	138.2	195.1	199.3	158.5	102.7	155.8	0	12.7	328.7	97.2	87.7	1.9
Route D	140.6	232.8	223.0	179.1	102.7	162.4	0	13.5	364.0	94.8	90.4	0.7
Route E	142.2	221.3	226.8	199.1	113.8	183.0	0	13.1	358.3	109.7	92.9	4.3
Route F	141.7	193.1	198.0	161.4	91.1	160.4	27.4	18.8	347.5	106.3	86.1	1.6
Route G	135.5	201.7	195.8	162.2	102.7	159.6	0	12.7	313.7	97.0	84.9	2.3
Utility	131.2	204.9	196.2	164.2	102.7	160.4	0	12.7	319.2	99.0	83.6	1.4
Agency	135.2	199.3	193.3	159.9	102.7	161.3	0	12.7	312.5	97.0	86.5	2.3

Ely to Delta Routes

Alternative	Mitigation Measures* (miles)											
	1	2	3	4	5	6	7	8	9	10	11	12
Delta Direct	13.2	59.8	75.8	75.0	67.8	17.1	9.0	3.3	57.3	4.2	19.6	2.9
*Cutoff **	23.5	83.4	86.2	83.5	15.5	43.3	16.6	3.9	85.1	15.4	18.0	2.9
*230kV Corridor****	48.9	87.0	78.0	64.8	11.8	82.4	16.6	6.9	117.4	19.3	30.6	0
Southern	37.0	124.9	118.6	99.6	7.3	62.2	27.8	5.5	127.2	31.0	43.6	4.9

* Numbers indicate Selectively Committed Mitigation Measures described in Table 4-2
** Environmentally Preferred Route
*** Agency and Utility Preferred Route



APPENDICES

APPENDIX A

PROJECT CONTACTS

LEAD CONTACTS

NAME	AFFILIATION	ADDRESS	PHONE
Jim Jensen	Dames & Moore	102 S. 17th St. Suite 100 Boise, ID 83702	(208) 344-6140
Garlyn Bergdale	Dames & Moore	7500 N. Dreamy Draw Drive Suite 145 Phoenix, AZ 85020	(602) 371-1110
Jan Packwood	Idaho Power Company	PO Box 70 Boise, ID 83707	(208) 383-2349
Terry Catlin	BLM UT State Office	324 S. State SLC, UT 84111	(801) 539-4122
Ed Tilzey	BLM NV State Office	850 Harvard Way Reno, NV 89520-0006	(702) 785-6483
Nancy Boyer	BLM ID State Office	3380 Americana Terrace Boise, ID 83706	(208) 334-1449
Karl Simonson	BLM Burley Dist.	Route 3, Box 1 Burley, ID 83318	(208) 678-5514
Rod Lee	BLM Richfield Dist.	900 N. 150 E. Richfield, UT 84730	(801) 896-8221
Dave Vandenberg	BLM Elko Dist.	PO Box 831 Elko, NV 89801	(702) 738-4071
Ron Sjogren	BLM Ely Dist.	HC 33 Box 150 Ely, NV 83901-9408	(702) 289-4865
Bill Baker	BLM Wells Resource Area	PO Box 881 Ely, NV 89801	(702) 738-4071
David Meyers	IPCo-Environmental	PO Box 70 Boise, ID 83707	(208) 383-2728
Chuck Durick	IPCo-System Planning	PO Box 70 Boise, ID 83707	(208) 383-2450
Pat Hasenoehrl	IPCo-HV Transmission	PO Box 70 Boise, ID 83707	(208) 383-2741
Butch Peugh	BLM ID State Office	3380 Americana Boise, ID 83707	(208) 334-1449
Toby Rhue	Humboldt National Forest	Ely Ranger District Ely, NV 89301	(702) 289-3031

NAME	AFFILIATION	ADDRESS	PHONE
Jerry Wickstrom	BLM Las Vegas Dist.	PO Box 26569 Las Vegas, NV 89126	(702) 647-5000
Runore Wycoff	BLM Stateline Resource Area	PO Box 26569 Las Vegas, NV 89126	(702) 647-5000
Bart Young	National Park Service	NPS-Denver Service Ctr 12795 W. Alameda Pkwy. Denver, CO 80225-0287	(303) 969-2251
Steve Dondero	BLM Elko Dist.	PO Box 831 Elko, NV 89801	(702) 738-4071
Al Hendricks	Great Basin Nat'l Park	Great Basin NP Baker, NV 89311	(702) 234-7331
Ron Replogle	National Park Service	Western Reg. Off. 600 Harrison St., Suite 600 San Francisco, CA 94107	(415) 744-3968
Larry Sip	BLM Las Vegas District	PO Box 26569 Las Vegas, NV 89126	(702) 647-5000
Mike Mann	IPCo-HV Transmission	963 Blue Lake Blvd. Twin Falls, ID 83301	(208) 733-8398
David Peugh	Hagerman Fossil Bed National Monument	963 Blue Lake Blvd. Twin Falls, ID 83301	(208) 733-8398

PROJECT CONTACTS

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
3/24/88	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discussed schedule
5/16/88	Waggoner	Gary	GIS Coordinator	USDI National Park Service		Lakewood, CO	GIS Data Base & NFS comments
9/12/88	Lichty	Al		University of Utah			IMACS-- update our Aug 11, 1987 data tape
9/16/88	Benton	Bob		US Fish & Wildlife Service			Sensitive species in Utah update since last Aug.
9/16/88	Drais	Gene		USDI Bureau of Land Management	Ely District		RMP
9/16/88	Gardetto	Jeff		USDI Bureau of Land Management	Elko District	Elko, NV	RMP
9/16/88	Smith	Jerry	District Manager	USDI Bureau of Land Management	Schell RA/Wilderness	Ely, NV	RMP
9/16/88	Squire	David		USDI Bureau of Land Management	Elko District	Elko, NV	RMP
9/19/88	Bond	Dow		USDA Forest Service	Sawtooth National Forest	Twin Falls, ID	Sensitive species update in Idaho
9/19/88	Foss	Jeff	Acting Planner	USDA Forest Servie	Sawtooth National Forest		Forest Plan, Appendix, Rec of Decision
9/19/88	Graves	Bobby Joe	Supervisor	USDA Forest Service	Humboldt National Forest		Forest Plan
9/19/88	Grooves	Craig		State of Idaho	Natural Heritage Program	Boise, ID	Sensitive species update in Idaho
9/19/88	Hedges	Steve		USDI Bureau of Land Management	Cedar City District	Cedar City, UT	Sensitive species update in Utah
9/19/88	Hendricks	Al	Superintendent	USDI National Park Service	Great Basin National Park	Baker, NV	Park information
9/19/88	Howard	Rich		US Fish & Wildlife Service	Boise Field Office		Sensitive species update in Idaho
9/19/88	Jarvis	Jeff		USDI Bureau of Land Management	Shoshone District	Shoshone, ID	Bennet Hills, Monument RA
9/19/88	Maller	Jim		Forest Service	Wasatch-Cache National Forest		Sensitive species update in Utah
9/19/88	Nordwall	Paul		USDA Forest Service	Caribou National Forest		Status of Forest Plan
9/19/88	Partridge	Allen	Planner	USDI Bureau of Land Management	Richfield District	Richfield, UT	House Range, Warm Springs, Sevier River
9/19/88	Rath	Mike		USDA Forest Service	Regional Office		Sensitive species update in Utah
9/19/88	Tuhy	Joel		Utah Natural Heritage Program			Sensitive species update in Utah
9/19/88	Walters	Bob		Utah Division of Wildlife Resources			Sensitive species update in Utah
9/19/88	Zellar	Dean		USDI Bureau of Land Management	Salt Lake District	SLC, UT	Bear River, Pony Express RA
9/20/88	Boyce	Sherm		USDA Forest Service	Caribou National Forest		Sensitive species update in Idaho
9/20/88	Brown	Jack		USDI Bureau of Land Management	Salt Lake City District	Salt Lake City	Sensitive species update in Utah
9/20/88	Godfrey	Andy		USDA Forest Service	Fishlake National Forest		Request Record of Decision & Forest Plan
9/20/88	Heaton	Garth		USDA Forest Service	Wasatch/Cache National Forest		Forest Plan and Ammendments
9/20/88	Herron	Gary		State of Nevada	Department of Wildlife	Reno, NV	Sensitive species status changes in Nevada
9/20/88	McNatt	Randy		US Fish & Wildlife Service		Reno, NV	Sensitive species update in Nevada
9/20/88		Chris		Nevada Natural Heritage Program			Sensitive species status changes in Nevada
9/21/88	Moreno	Rich		State of Nevada	Commission on Tourism	Carson City, NV	Nevada Scenic Highways
2/12/89	Barber	Mark		USDI Bureau of Land Management	Ely District	Ely, NV	SWIP Inventory Report
2/12/89	Ketchum	Chris	Wildlife Biologist	USDI Bureau of Land Management	Burley District	Burley, ID	SWIP Inventory Report
2/12/89	Suminski	Rita		USDA Forest Service	Ely District	Ely, NV	SWIP Inventory Report
2/12/89	Young	David		USDI Bureau of Land Management	Richfield District	Richfield, UT	SWIP Inventory Draft
3/9/89	Mathiason	Carl					Aerial Photos
3/24/89	Glauz	Bill		City of Los Angeles	Department of Water and Power	Los Angeles, CA	Meeting schedule
3/27/89	Hendricks	Al	Superintendent	USDI National Park Service	Great Basin National Park	Baker, NV	GIS
3/27/89	Kerley	Linda		US Fish and Wildlife Service		Reno, NV	Wetlands

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
4/3/89	Heberger	Roy		US Fish and Wildlife Service		Boise, ID	Comments on scoping
4/4/89	Barcomb	Kathy		State of Nevada	Comm for Preservation of Wild Horses		Map request/mailing list
4/5/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss Air Force Meeting
4/6/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Mailing list
4/13/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Military
4/27/89	Barmore	Russell		Soil Conservation Service		Reno, NV	Obtaining soil surveys for SWIP in Nevada
4/27/89	Downs	Joe		Soil Conservation Service			Obtaining soil surveys for Millard County, UT
4/27/89	Maxwell	Harold		USDA Soil Conservation Service		Boise, ID	Obtain soil surveys for SWIP
4/27/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	BLM District contacts
4/28/89	Bybee	Chris Ann	Soils specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Obtain inventory information for SWIP
4/28/89	Kiracofe	Steve	Soil Scientist	USDI Bureau of Land Management	Elko District	Elko, NV	Obtaining soils information for SWIP
4/28/89	McGordon	Karen	L.A.	USDI Bureau of Reclamation		Boise, ID	Hunt Internment Camp
5/3/89	Vandenberg	Dave	Realty Specialist	USDI Bureau of Land Management	Elko District	Elko, NV	Routing in contact area
5/3/89	Waggoner	Gary	GIS Coordinator	USDI National Park Service		Lakewood, CO	GIS/Visual
5/4/89	Cook	Kirk	Soils Scientist	USDI Bureau of Land Management	Burley District	Burley, ID	Obtain soils and hydro info
5/4/89	Dee	Larry	Geologist and Soil Scientist	USDI Bureau of Land Management		Shoshone, ID	Obtain geologic & paleontological info.
5/4/89	Idso	John		USDI Bureau of Land Management	Shoshone District	Shoshone, ID	Obtain agency contacts & Earth Res. info
5/4/89	Zieg	Phil	Water Resource Specialist	USDI Bureau of Land Management		Richfield, UT	Obtain info on earth resources west of Delta, UT
5/5/89	Funkhauser	Gary		Bell-Walker Engineers		Boise, ID	City of Lewiston--Bryden Canyon Project
5/5/89	Jobson	Brian		Sacramento Municipal Utilities District			Request information
5/7/89	Leberski	Walt	Secret. for the Cent. Comm.	State of Nevada	Grazing Board		Grazing Board concerns
5/7/89	Leberski	Walt	Secret. for the Cent. Comm.	State of Nevada	Grazing Board		Grazing board concerns
5/7/89	Wright	Cardine		Utah State Planning		SLC, UT	To check on potential state planning conflicts
5/9/89	Lee	Paula		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Military information
5/11/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	BLM request to Hill AFB
5/11/89	Young	Dave		USDI Bureau of Land Management	Richfield District	Richfield, UT	Spotted Frog
5/16/89	McDonald	Lynn	Archaeologist	USDI Bureau of Reclamation	Pacific Northwest Region	Boise, ID	Minidoka Site Consultation
5/18/89	Anderson	Geneal	Chairperson	Paiute Indian Tribe of Utah	Southern Pauite Chairman's Association		Describe project and solicit NA input
5/18/89	Bear	Lawrence	Chairman	Skull Valley Indian Reservation	Skull Valley Goshute Tribe		NA Contacts. 801-884-6453
5/18/89	Begay	Grucie	Chairperson	Te-Moak Tribe of Western Shoshone	Wells Band Council		Describe project and solicit NA input
5/18/89	Conklin	Dolores	Chairperson	Te-Moak Tribe of Western Shoshone	Battle Mountain Band Council		Described project & Solicited input
5/18/89	Duncan	Luke	Chairman	Uintah and Ovray Indian Reservation	Ute Tribal Council		NA Contacts
5/18/89	Gonzales	Davis	Chairman	Te-Moak Tribe of Western Shoshone	Elko Band Council		NA Contacts
5/18/89	Healy	Gordon	Chairman	Te-Moak Tribe of Western Shoshone	South Fork Band Council		Describe project and solicit NA input
5/18/89	Hooper	Levi	Chairman	Youba Indian Reservation	Youba Tribal Council		Describe project and solicit NA input
5/18/89	Koosharem	Vera	Chairperson	Joseph Indian Reservation	Koosharem Band of Paiutes		NA Contact
5/18/89	Millett	Jerry	Chairman	Duckwater Indian Reservation	Duckwater Shoshone Tribal Council		Describe project & solicit NA input
5/18/89	Osborne	Marvin	Chairman	Fort Hall Indian Reservation			Distribute project & solicit Native Amer. input
5/18/89	Paiva	James	Chairman	Duck Valley Shoshone - Paiute	Business Council		Native American contacts
5/18/89	Reilly	Bennie	Chairman	Te-Moak Tribe of Western Shoshone	Ely Band Council		Describe project and solicit concerns
5/18/89	Steele	Edmund	Chairman	Confederated Tribes of Goshute	Goshute Band Council		NA Contacts
5/18/89	Tom	Anthony	Chairman	Te-Moak Tribe of Western Shoshone	Elko Tribal Council		Describe project and solicit NA input
5/19/89	Kitchens	Gary	UNMPS	Bill Eisinger			Environmental subcommitte steering committee

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
5/23/89	Vandenberg	Dave	Realty Specialist	USDI Bureau of Land Management	Elko District	Elko, NV	WSA in Goshute Mtns.
5/24/89	Becker	Alice	State Archaeologist	State of Nevada	Dept. of Historic Preserv. & Arch.	Carson City, NV	Discuss prehistoric & historic sites records searc
5/24/89	Young	Bart	Team Captain	USDI National Park Service	Great Basin National Park	Denver, CO	Routes
5/25/89	Amme	Brian	Archaeologist	USDI Bureau of Land Management	Ely District, Egan Resource Area	Ely, NV	Records search arrangement
5/25/89	Frampton	Fred	Archaeologist	USDA Forest Service	Humboldt National Forest	Elko, NV	Check Carson City and Elko for USFS sites
5/25/89	Murphy	Tim	Area Archaeologist	USDI Bureau of Land Management	Elko District, Wells Resource Area		Discuss alternatives in Wells Resource Area
5/26/89	Young	Bart	Team Captain	USDI National Park Service	Great Basin National Park	Denver, CO	Field trip coordination
5/30/89	Bybee	Chris Ann	Soils specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Obtain soils data
5/30/89	Chapell	Lorell	Soils Specialist	USDI Bureau of Land Management	Richfield District	Richfield, UT	Obtain soils data
5/30/89	Costello	Terry	Environmental Coordinator	USDI Bureau of Land Management	Boise District	Boise, ID	Initial phone contact--referrals
5/31/89	Bybee	Chris Ann	Soils specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Obtain soils information
5/31/89	Chapell	Lorell	Soils Specialist	USDI Bureau of Land Management	Richfield District	Richfield, UT	Soils data
5/31/89	Chappell	Lorell	Soils Specialist	USDI Bureau of Land Management	Richfield District	Richfield, UT	Obtaining soils data
5/31/89	Demuele	Paul		USDA Forest Service	Humboldt National Forest	Ely, NV	Obtain earth resource data
6/1/89	Boggs	Bill	Outdoor Recreation Planner	USDI Bureau of Land Management	Burley District	Burley, ID	Set up appointment for visit
6/1/89	Conklin	Dolores	Chairperson	Te-Moak Tribe of Western Shoshone	Battle Mountain Band Council		Solicit any concerns
6/1/89	Duncan	Luke	Chairman	Uintah & Ovray Indian Reservation	Ute Tribal Council		NA Contacts
6/1/89	Gonzales	Davis	Chairman	Te-Moak Tribe of Western Shoshone	Elko Band Council		NA Contacts
6/1/89	Goodman	Jerry		USDI Bureau of Land Management	Richfield District	Richfield, UT	Contact referrals/WSA's boundaries
6/1/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Contact referral
6/1/89	Tom	Anthony	Chairman	Te-Moak Tribe of Western Shoshone	Elko Tribal Council		Davis Gonzales new chairman. Requested new letter
6/2/89	Anderson	Geneal	Chairperson	Paiute Indian Tribe of Utah	Southern Paiute Chairman's Association		Request for additional information
6/2/89	Millett	Jerry	Chairman	Duckwater Indian Reservation	Duckwater Shoshone Tribal Council		Referred Raymond Yowell
6/2/89	Reilly	Bennie	Chairman	Te-Moak Tribe of Western Shoshone	Ely Band Council		Referred to Raymond Yowell
6/2/89	Steele	Edmund	Chairman	Confederated Tribes of Goshute	Goshute Band Council		NA Contacts
6/5/89	Chappell	Lorell	Soils Specialist	USDI Bureau of Land Management	Richfield District	Richfield, UT	Data acquisition
6/5/89	Clegg	Ferris		USDI Bureau of Land Management	Richfield District	Richfield, UT	Wilderness & WSA mapping
6/5/89	Cook	Kirk	Soils Scientist	USDI Bureau of Land Management	Burley District	Burley, ID	Data acquisition
6/5/89	DeWitt	Floyd	Soil Scientist	USDI Bureau of Land Management	Shoshone District	Shoshone, ID	Data acquisition
6/5/89	Kiracofe	Steve	Soil Scientist	USDI Bureau of Land Management	Elko District	Elko, NV	Soils data acquisition
6/5/89	Laudeman	Pete	Archaeologist	USDI Bureau of Land Management	Burley District	Burley, ID	Data acquisition
6/5/89	Laudeman	Pete	Archaeologist	USDI Bureau of Land Management	Burley District	Burley, ID	Paleontology data acquisition
6/5/89	Netcher	Dan	Geologist	USDI Bureau of Land Management	Ely District	Ely, NV	Data acquisition
6/5/89	Weasma	Ted	Geologist/Paleontologist	USDI Bureau of Land Management	Jarbridge RA	Boise, ID	Acquisition
6/5/89	Weasma	Ted	Geologist/Paleontologist	USDI Bureau of Land Management	Jarbridge RA	Boise, ID	Paleo data acquisition
6/6/89	Amme	Brian	Archaeologist	USDI Bureau of Land Management	Ely District	Ely, NV	Paleontological data acquisition
6/6/89	Netcher	Dan	Geologist	USDI Bureau of Land Management	Ely District	Ely, NV	Data acquisition geology
6/7/89	Chappell	Lorell	Soils Specialist	USDI Bureau of Land Management	Richfield District	Richfield, UT	Obtain soils data
6/7/89	DeWitt	Floyd	Soil Scientist	USDI Bureau of Land Management	Shoshone District	Shoshone, ID	Data acquisition
6/7/89	Jackson	Mike	Geologist	USDI Bureau of Land Management	Richfield District	Richfield, UT	Discuss geologic data collection
6/7/89	LeBrecque	Sharon	Soils Scientist	USDI Bureau of Land Management	Burley District	Burley, ID	Data Acquisition
6/8/89	Anderson	Geneal	Chairperson	Paiute Indian Tribe of Utah	Southern Paiute Chairman's Association		Referred to Cult Res. official, Barry Frank
6/8/89	Kiracofe	Steve	Soil Scientist	USDI Bureau of Land Management	Elko District	Elko, NV	Data acquisition

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
6/8/89	Laudeman	Pete	Archaeologist	USDI Bureau of Land Management	Burley District	Burley, ID	Data acquisition
6/8/89	Lindsey	LaMar	Archaeologist	USDI Bureau of Land Management	Richfield District	Richfield, UT	Site file search in Richfield and Salt Lake City
6/8/89	Partridge	Allen	Planner	Bureau of Land Management	Richfield District	Richfield, UT	Resource information gathering
6/8/89	Partridge	Allen	Planner	USDI Bureau of Land Management	Richfield District	Richfield, UT	Resource information gathering
6/8/89	Weasma	Ted	Geologist/Paleontologist	USDI Bureau of Land Management	Jarbridge RA	Boise, ID	Data acquisition
6/8/89	Yowell	Raymond	Chief	National Council of Western Shoshone	Duckwater Indian Reservation		Describe project, receive input, discuss meeting
6/9/89	Baker	Leroy	District Engineer	Idaho Power Company	Twin Falls District		Hunt site distribution system
6/9/89	Dykman	Jim	Regulation Assistance Coordi	Utah Preservation Office	Utah State Historical Society		Replaced Diana Christensen as SHPO Coordinator
6/9/89	Howald	Kevin		Earth Satellite Corporation		Rockville, MD	Spot data account on vax
6/12/89	Dallin	Terry	Soil Survey Party Leader	USDA Soil Conservation Service		Fillmore, UT	Soils Data Acquisition
6/12/89	Forester	Neil		City of Delta	Planning and Zoning Department	Delta, UT	Delta Planning concerns
6/12/89	Forester	Neil		City of Delta	Planning and Zoning Department	Delta, UT	Delta Planning Concerns
6/12/89	Harvey		Public Safety Officer	State of Utah	Department of Public Safety	SLC, UT	Obtain flood insurance maps for Utah
6/12/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Weekly meeting to update SWIP Activity
6/12/89	Howald	Kevin		Earth Satellite Corporation		Rockville, MD	Format of spot data
6/12/89	Jacobson	Stuart	Recreation Planner	USDI Bureau of Land Management	Richfield District/House Range RA	Filmore, UT	General information
6/12/89	Jacobson	Stuart	Recreation Planner	USDI Bureau of Land Management	Richfield District/House Range RA	Filmore, UT	General info
6/12/89	Phillips	John	Area Manager	USDI Bureau of Land Management	Elko District	Elko, NV	Set up meeting for data collection
6/12/89	Reagan	Jerry	Planning Director	Millard County	Planning & Zoning	Delta, UT	General Information
6/12/89	Reagan	Jerry	Planning Director	Millard County	Planning & Zoning	Delta, UT	General information
6/12/89	Richardson	John		State of Nevada	State Parks System		Parks data and mapping
6/12/89	Richardson	John		State of Nevada	State Parks System		Parks data and mapping
6/12/89	Waggoner	Gary	GIS Coordinator	USDI National Park Service		Lakewood, CO	Acquiring NPS GIS DATA for GBNP
6/12/89	Weasma	Ted	Geologist/Paleontologist	USDI Bureau of Land Management	Jarbridge RA	Boise, ID	Hagerman Fossil Bed Area
6/12/89	Wolf	David	Wilderness Coordinator	USDI Bureau of Land Management	Nevada State Office	Reno, NV	Data request--Wilderness
6/13/89	Brown	Harold	Realty Specialist	USDI Bureau of Land Management	Shoshone District	Shoshone, ID	Data collection
6/13/89	Chamberland	J.R.	District 5 Director	State of Utah	Department of Transportation	Cedar City, UT	Maps
6/13/89	Chamberland	J.R.	District 5 Director	State of Utah	Department of Transportation	Cedar City, UT	Maps
6/13/89	Rhue	Toby	Recreation Planner	USDA Forest Service	Humboldt National Forest	Ely, NV	General information
6/13/89	Rhue	Toby	Recreation Planner	USDA Forest Service	Humboldt National Forest	Ely, NV	General information
6/14/89	Deaderick	Skip	Project Geologist	Billiton Minerals		Reno, NV	Discuss geology and exploration
6/14/89	Landreth	Nancy	Geologist	USDA Forest Service	Humboldt National Forest	Ely, NV	Obtain geologic & paleontological information
6/14/89	LeBreque	Sharon	Soils Scientist	USDI Bureau of Land Management	Burley District	Burley, ID	Obtain soils data
6/15/89	Eisenbarth	Fred		State of Idaho	Department of Water Resources		Obtain FEMA flood ins. maps for Idaho
6/15/89	Seronko	Paul	Soil Scientist	USDI Bureau of Land Management	Boise District		Obtain soils data
6/15/89	Wooodward	Tom	Geologist	USDI Bureau of Land Management	Boise District	Boise, ID	Obtain water resources contact
6/15/89			Public Works Engineer	Elko County			Obtain FEMA flood ins. maps for Elko County
6/16/89	Carpenter	Dan	Hydrologist/Soils Specialist	USDA Forest Service	Humboldt National Forest	Elko, NV	Data acquisition - soils
6/16/89	Carpenter	Dan	Hydrologist/Soils Specialist	USDA Forest Service	Humboldt National Forest	Elko, NV	Obtain soils info for Humboldt National Forest
6/16/89	Ekdale	Tony	Professor	University of Utah	Geology Department		Obtain geologic and paleo info
6/16/89	Firby	Jane	Paleontologist	University of Nevada		Reno, NV	Obtain Paleontological Information
6/16/89	Hoyt	Sara	Geologist	USDI Bureau of Land Management	Elko District	Elko, NV	Data acquisition - geology/paleo
6/16/89	Hoyt	Sara	Geologist	USDI Bureau of Land Management	Elko District	Elko, NV	Obtain paleo and geological info

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
6/16/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	LADWP Towers, NPS as cooperating agency
6/19/89	Barber	Mark		USDI Bureau of Land Management	Ely District	Ely, NV	Sensitive species
6/19/89	Bloyer	Nancy		USDI Bureau of Land Management	Idaho State Office	Boise, ID	
6/19/89	Bond	Dow		USDA Forest Service	Sawtooth National Forest	Twin Falls, ID	Sensitive species
6/19/89	Bruce	Holly		Nature Conservancy			Sensitive species
6/19/89	Crow	John	Planner	State of Idaho	Department of Parks and Recreation	Boise, ID	Data request
6/19/89	Glauz	Bill		City of Los Angeles	Department of Water and Power	Los Angeles, CA	Hill AFB MOAS
6/19/89	Harusko	Carl		Forest Service	Humboldt National Forest		Sensitive Species
6/19/89	Haseneohrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss newsletter #2
6/19/89	Knight	Teri		University of Nevada	Nevada Natural Heritage Program	Las Vegas, NV	Sensitive species
6/19/89	Lee	Rod		USDI Bureau of Land Management	Richfield District	Richfield, UT	Sensitive species
6/19/89	Navarre	Richard		US Fish and Wildlife Service			Sensitive species
6/19/89	Nish	Darrell		Department of Fish and Game	Utah		Sensitive species
6/19/89	Price	Roy		USDI Bureau of Land Management	Elko District	Elko, NV	Sensitive species
6/19/89	Pugh	David		USDI National Park Service	Fossil Beds N. M.	Twin Falls, ID	To set up a meeting to discuss SWIP
6/19/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Project update
6/19/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Sensitive Plant Species
6/19/89	Suminski	Rita		USDA Forest Service	Humboldt National Forest	Elko, NV	Sensitive species
6/20/89	Alberta	Vince		Jerome County	Northside Canal Company	Jerome, ID	Maps on gas line
6/20/89	Mortisen	Glen		State of Nevada	Department of Transportation	Ely, NV	Maps and concerns
6/20/89	Mortisen	Glen		State of Nevada	Department of Transportation	Ely, NV	Maps and concerns
6/20/89	Robinson	Rich		State of Nevada	Division of State Lands	Carson City, NV	To find out about NV state lands
6/20/89	Stockton	Don	Area Superintendent	State of Idaho	Department of Lands	Boise, ID	Information on Idaho State Lands
6/20/89	Wilcox	Pamela		State of Nevada	Division of State Lands	Carson City, NV	State lands
6/20/89	Wilcox	Pamela		State of Nevada	Division of State Lands	Carson City, NV	State lands
6/20/89	Young	Bart	Team Captain	USDI National Park Service	Great Basin National Park	Denver, CO	Discuss alternatives near Park
6/20/89	Young	Bart	Team Captain	USDI National Park Service	Great Basin National Park	Denver, CO	Discuss alternatives near Park
6/21/89	Cress	Jim		State of Nevada	Department of Transportation	Elko, NV	Data and map requests
6/21/89	Cress	Jim		State of Nevada	Department of Transportation	Elko, NV	Data and map requests
6/21/89	Howald	Kevin		Earth Satellite Corporation		Rockville, MD	General business
6/21/89	Oneida	Richard					Big Wood Canal Company
6/22/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Engineering and route study meeting w/LADWP
6/22/89	Howald	Kevin		Earth Satellite Corporation		Rockville, MD	Follow-up on imagery status
6/22/89	Howald	Kevin		Earth Satellite Corporation		Rockville, MD	Add't copies of classified image for Twin Falls
6/22/89	Palmer	Dick		State of Idaho	Department of Transportation	Boise, ID	Traffic flows in and out of cities
6/22/89	Reagan	Jerry	Planning Director	Millard County	Planning & Zoning	Delta, UT	County Land Use Data
6/22/89	Reagan	Jerry	Planning Director	Millard County	Planning & Zoning	Delta, UT	County Land Use Data
6/22/89	Vander Voit	Rick	Outdoor Recreation Planner	USDI Bureau of Land Management	Shoshone District		To find visual data
6/22/89		Jackie		USDI Bureau of Land Management	Mining claims	Boise	Mining claims
6/23/89	Ruesnik	Bob		US Fish and Wildlife Servie	Utah		Sensitive species
6/23/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Cooperating agency--NPS
6/25/89	Morgan	Kirk		Northwest Pipe Line		SLC, UT	Find a routing of pipeline
6/26/89	DeWitt	Floyd	Soil Scientist	USDI Bureau of Land Management	Shoshone District	Shoshone, ID	Obtain soils info

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
6/26/89	Forman	Richard	County Engineer	White Pine County		Ely, NV	County concerns
6/26/89	Jackson	Kip		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Discuss military and NPS issues
6/26/89	Jacobson	Stuart	Recreation Planner	USDI Bureau of Land Management	Richfield District/House Range RA	Fillmore, UT	Field trip meeting
6/26/89	Landreth	Nancy	Geologist	USDA Forest Service	Humboldt National Forest	Ely, NV	Geologic info
6/26/89	Najima	Jim		State of Nevada	Division of State Parks	Carson City, NV	Parks mapping
6/26/89	Rajala	Karen		White Pine County Planning	White Pine Power Project	Ely, NV	Meeting scheduling
6/26/89	Rajala	Karen		White Pine County Planning	White Pine Power Project	Ely, NV	Meeting scheduling
6/26/89	Smith	Jerry	District Manager	USDI Bureau of Land Management	Schell RA/Wilderness	Ely, NV	Meeting scheduling
6/26/89			Receptionist	Nevada Bureau of Mines & Geology		Reno, NV	Sources of Paleo information
6/27/89	Carpenter	Dan	Hydrologist/Soils Specialist	USDA Forest Service	Humboldt National Forest	Elko, NV	Soils data acquisition
6/27/89	Hulse	Frank	Lincoln County Recorder	Lincoln County		Pioche, NV	County concerns
6/27/89	Kiracofe	Steve	Soil Scientist	USDI Bureau of Land Management	Elko District	Elko, NV	Soils data acquisition
6/27/89	Smith	Jerry	District Manager	USDI Bureau of Land Management	Schell RA/Wilderness	Ely, NV	Set up field meeting
6/28/89	Barnes	John	Recreation Planner	State of Idaho	Department of Parks & Recreation	Boise, ID	Request SCORP
6/28/89	Bernard	Joyce	Planning Commission Sec.	Lincoln County	Department of Planning & Zoning	Shoshone, ID	How SWIP would affect Lincoln County
6/28/89	Billidew	John		State of Idaho	Department of Lands	Boise, ID	Mapping for exchange lands
6/28/89	Boucher	George	County Manager	Elko County	Planning Department	Elko, NV	County concerns and data
6/28/89	Brown	Maggie	Curator	Nevada State Museum		Carson City, NV	Info from specific site and report files
6/28/89	Carpenter	Jim	Assistant District Engineer	State of Idaho	Highway Division--District #4		Request data on future highway projects
6/28/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Newsletter review
6/28/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Newsletter review
6/28/89	Havarre	Richard		US Fish and Wildlife Service			Sensitive species
6/28/89	Hoffman	Mable	Landuse Planner	State of Nevada	State Lands Department	Carson City, NV	State Landuse Data
6/28/89	Laudeman	Pete	Archaeologist	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss distribution of draft PMOA
6/28/89	Lindenbaum	Leonard	Chief of Surveys	City of Los Angeles	Department of Water & Power	Los Angeles, CA	Cutoff route north of GBNP
6/28/89	Mieding	Jim		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Discuss "cutoff" route--N. of GBNP
6/28/89	Rhinehart	Julian	Reg. Public Affairs Director	USDI Bureau of Reclamation	Lower Colorado River Reg. Office	Boulder City,NV	Bureau concerns
6/28/89	Rhinehart	Julian	Reg. Public Affairs Director	USDI Bureau of Reclamation	Lower Colorado River Reg. Office	Boulder City NV	Bureau concerns
6/28/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Request military flight information
6/28/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Ditty Bird Lane
6/28/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Programmatic agreement, meetings, coordination
6/28/89	Yowell	Raymond	Chief	National Council of Western Shoshone	Duckwater Indian Reservation		Describe project and solicit NA input
6/28/89	Yowell	Raymond	Chief	National Council of Western Shoshone	Duckwater Indian Reservation		Discussed concerns & meeting date
6/29/89	Brock	William		National Park Service	Great Basin National Park	Baker, NV	Sensitive plant species
6/29/89	Brown	Louis	State Lands Person	State Lands & Forestry		Richfield, UT	State Land Status
6/29/89	Clemmer	Glen		State of Nevada	Division of State Parks	Carson City, NV	Sensitive species
6/29/89	Gilbertson	Larry	Wildlife Biologist	Fish and Game Department			Sensitive species
6/29/89	Groves	Craig		State of Idaho	Natural Heritage Program	Boise, ID	Sensitive species update in Idaho
6/29/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Pat concerned w/Power Eng. Wells Rural Coop
6/29/89	Howe	Sherry	Resource Specialist	USDA Forest Service	Ruby Mountains Ranger District	Wells, NV	Visual Resource Concerns
6/29/89	Melquist	Wayne		Idaho Fish & Game			Sensitive plant species
6/29/89	Schaffron	Gary		USDA Forest Service	Humboldt National Forest, Jarbidge RA		Concerns for visual resources
6/29/89	Schaffron	Gary		USDA Forest Service	Humboldt National Forest, Jarbidge RA		

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6/29/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Update on SWIP issues
6/29/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss comments on PA
6/29/89	Stanfield	Alan		Advisory Council on Historic Preservation		Golden, CO	SWIP Programmatic Agreement
6/29/89	Tuhy	Joel		Natural Heritage Program		Utah	Sensitive species
6/30/89	Allred	Bryce	County Building Inspector	Cassia County			Obtain flood ins. maps (FEMA) for Idaho-
6/30/89	Howald	Kevin		Earth Satellite Corporation		Rockville, MD	TM coverage and classification issues
6/30/89	Hoyt	Sara	Geologist	USDI Bureau of Land Management	Elko District	Elko, NV	Obtain paleo info in Elko County
6/30/89	Ingawauup	Keith	Land Use Director	Fort Hall Indian Reservation			Native American Contacts
6/30/89	Osborne	Marvin	Chairman	Fort Hall Indian Reservation			Solicit concerns on Native American
6/30/89				Gooding County			Obtain flood ins. maps (FEMA) for Idaho
7/5/89	Costello	Terry	Environmental Coordinator	USDI Bureau of Land Management	Boise District	Boise, ID	Collect data for land use and visual
7/5/89	DeWitt	Floyd	Soil Scientist	USDI Bureau of Land Management	Shoshone District	Shoshone, ID	Obtain soil info
7/5/89	Dunn	Michael	Physical Scientist	USDI Bureau of Mines	Western Field Operations Center	Spokane, WA	Request locat contacts for mineral resources
7/5/89	Elwell	Glen	Planner	Jerome Co.	Planning & Zoning Department		Obtain (FEMA) flood ins. map index
7/5/89	Johnson	Mark	Soil Survey Party Leader	USDA Soil Conservation Service		Gooding, ID	Obtain Soils information
7/5/89	Lind	Gordy		Bureau of Reclamation			Bureau Concerns
7/5/89	McQuivey	Lee	Assistant Project Manager	Bureau of Reclamation		Provo, UT	Bureau concerns, Bonneville Unit of Cent UT Pr
7/5/89	Polelonema	Emery	Programs Coordinator	Six County Planning			Planning for Millard County
7/6/89	Bellow	Tom		State of Nevada	Department of Agriculture		Agricultural concerns
7/6/89	Derricott	Jim	Manager	Intermountain Gas Company		Boise, ID	Gas line locations
7/6/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Received PA draft/ACHP letter and is sending out
7/7/89	Baza	John	Petroleum Engineer			SLC, UT	Check on oil, gas, mining
7/7/89	Boggs	Bill	Outdoor Recreation Planner	USDI Bureau of Land Management	Burley District	Burley, ID	Data request--SRMA Boundaries
7/7/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss meetings
7/7/89	McDonald	Lynn	Archaeologist	USDI Bureau of Reclamation	Pacific Northwest Region	Boise, ID	Minidoka Site Consultation
7/7/89	Taylor	Lee	Director	Twin Falls County	Planning and Zoning		Response to county contact letter
7/8/89	Costello	Terry	Environmental Coordinator	USDI Bureau of Land Management	Boise District	Boise, ID	Saylor Creek Bombing Range expansion
7/8/89				Western Shoshone Tribe	Te-Moak Elders Council		Discuss project, solicit input
7/10/89	Carson	Gary	Area Manager	USDI Bureau of Land Management	Jarbidge, RA	Boise, ID	Look at ORV Use Plan
7/10/89	Carson	Gary	Area Manager	USDI Bureau of Land Management	Jarbidge RA	Boise, ID	Detail map of Hagerman Fossil Beds
7/10/89	Carson	Gary	Area Manager	USDI Bureau of Land Management	Jarbidge RA	Boise, ID	Detail map of Hagerman Fossil Beds
7/10/89	Chamberland	J.R.	District 5 Director	State of Utah	Department of Transportation	Cedar City, UT	Discuss trans. issues
7/10/89	Costello	Terry	Environmental Coordinator	USDI Bureau of Land Management	Boise District	Boise, ID	Pickup Wilderness Document
7/10/89	DeWitt	Floyd	Soil Scientist	USDI Bureau of Land Management	Shoshone District	Shoshone, ID	Obtain soils info
7/10/89	Dunn	Michael	Physical Scientist	USDI Bureau of Mines	Western Field Operations Center	Spokane, WA	Obtain mineral claims info
7/10/89	Kiracofe	Steve	Soil Scientist	USDI Bureau of Land Management	Elko District	Elko, NV	Obtain info of Tobar groundwater table
7/10/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss all agency meeting
7/10/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss environmental concerns in Idaho
7/10/89	Story	Ed	Director	Utah Natural Resources	Richfield District	Richfield, UT	Gather visual data/land use data
7/11/89	Alderson	Adel		State of Nevada	Division of Environmental Protection	Carson City, NV	Obtain water quality stream class design for Nev
7/11/89	Alderson	Adel		State of Nevada	Division of Environmental Protection	Carson City, NV	Obtain water quality stream class design for Nev
7/11/89	Ames	Dal F.	Soil Survey Party Leader	USDA Soil Conservation Service		Twin Falls, ID	Obtain soils data
7/11/89	Anderson	Geneal	Chairperson	Paiute Indian Tribe of Utah	Southern Paiute Chairman's Association		Confirmed meeting on July 18

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7/11/89	Dunn	Michael	Physical Scientist	USDI Bureau of Mines	Western Field Operations Center	Spokane, WA	Send corridor location maps for mining claim info.
7/11/89	Jacobson	Stew	Recreation Planner	USDI Bureau of Land Management	Richfield District/House Range RA	Fillmore, UT	Obtain info for land use/visual data
7/11/89	Netcher	Dan	Geologist	USDI Bureau of Land Management	Ely District	Ely, NV	To inform these specialists of SWIP study
7/11/89	Reagan	Jerry	Planning Director	Millard County	Planning & Zoning	Delta, UT	County Map information
7/11/89	Salisbury	Rick		USDI Bureau of Mines	Intermountain Field Oper. Center	Denver, CO	Obtain mining claim records for Utah
7/12/89	Barker	Pat	State Archaeologist	USDI Bureau of Land Management		Reno, NV	Obtain Paleo info
7/12/89	Gillette	David	State Paleontologist	State of Utah	Division of State History	SLC, UT	Obtain paleontology info for Utah
7/12/89	Gillette	David	State Paleontologist	State of Utah	Division of State History	SLC, UT	Obtain Paleontology info
7/12/89	Harmon	Craig	Archäeologist	USDI Bureau of Land Management		SLC, UT	Obtain Paleo info
7/12/89	Lindenbaum	Leonard	Chief of Surveys	City of Los Angeles	Department of Water and Power	Los Angeles, CA	'Cutoff Route' North of GBNP
7/12/89	Lindsey	LaMar	Archaeologist	USDI Bureau of Land Management	Richfield District	Richfield, UT	0btain paleo info
7/12/89	Ollis	Ron		State of Utah	Water Resources		Request contacts for canal Co.'s--Utah
7/12/89	Rhue	Toby	Recreation Planner	USDA Forest Service	Humboldt National Forest	Ely, NV	Get info--visual/landuse
7/12/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley,ID	Discuss comments on prep plan
7/12/89	Sjogren	Ron	Realty Specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Get information--visual/land use
7/13/89	Ames	Dal F.	Soil Survey Party Leader	USDA Soil Conservation Service		Twin Falls, ID	Obtain soils data
7/13/89	Anderson	Dean		Melville--Delta Canal Company			Request system map of canals
7/13/89	Dondero	Steve	Range Conservationist	USDI Bureau of Land Management	Wells RA		Consultation on sensitive viewpoints
7/13/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss military meeting on the 17th
7/13/89	Johnson	Mark	Soil Survey Party Leader	USDA Soil Conservation Service		Gooding, ID	Obtain soils data
7/13/89	Netcher	Dan	Geologist	USDI Bureau of Land Management	Ely District	Ely, NV	Mining development & proposed sites
7/13/89	Phillips	John	Area Manager	USDI Bureau of Land Management	Elko District	Elko, NV	To gather info from site and report files
7/13/89	Rajala	Karen		White Pine County Planning	White Pine Power Project	Ely, NV	Get info for landuse/visual
7/13/89	Rhue	Toby	Recreation Planner	USDA Forest Service	Humboldt National Forest	Ely, NV	Info--visual/landuse
7/13/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Request copy of EIS
7/13/89	Sjogren	Ron	Realty Specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Get info: White County, NV Master Plan
7/13/89	Stowers	Ken	Realty Specialist	USDI Bureau of Reclamation	Nevada State Office		Data on mineral claims/leases
7/13/89	Vandenberg	Dave	Realty Specialist	USDI Bureau of Land Management	Elko District	Elko, NV	Request data source for mineral claims
7/14/89	Dykman	Jim	Regul. Assistance Coord.	Utah Preservation Office	Utah State Historical Society		Reviewed draft PA & Found it OK
7/14/89	Ford	Peter	Chairman	Baker Advisory Board		Baker, NV	Request for information
7/14/89	Reilly	Bennie	Chairman	Te-Moak Tribe of Western Shoshone	Ely Band Council		Project route map on request of Peter Ford
7/14/89	Rugger	Jay	Soils Specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Obtain soils info for White Pine County
7/14/89	Vandenberg	Dave	Realty Specialist	USDI Bureau of Land Management	Elko District	Elko, NV	Discuss centerline changes
7/15/89	Amme	Brian	Archaeologist	USDI Bureau of Land Management	Ely District	Ely, NV	To gather info from site and report files
7/17/89	Diedrich	Skip	Geologist	Billiton Minerals		Reno, NV	Mining activity on Humbolt NF
7/17/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss meeting agenda
7/17/89	Henderson	Dave	Area Manager	USDI Bureau of Land Management	Warm Springs RA	Fillmore, UT	Check on recreation
7/17/89	Neuberry	Allen	District Ranger	State Parks		Panaca, NV	Cave Lake State Park
7/17/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss meeting with HIll AFB
7/18/89	Anderson	Geneal	Chairperson	Paiute Indian Tribe of Utah	Southern Paiute Chairman's Association		Meeting w/council to discuss project and concems
7/18/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Preparation for 7/20 meeting
7/18/89	Jacobson	Stew	Recreation Planner	USDI Bureau of Land Management	Richfield District/House Range RA	Fillmore, UT	Check on visual backup/wilderness
7/18/89	Manzanevas	Toby	Geologist	USDI Bureau of Land Management		Fillmore, UT	Mining activity in Utah

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7/18/89	Robinson	Bill	Geologist	USDI Bureau of Land Management	Ely District	Ely, NV	Check on mining activity potent/exist mining in BLM
7/19/89	Fletcher	Terry	Landscape Architect	USDA Forest Service	Sawtooth NF, Twin Falls Ranger District		Data collection
7/19/89	Glauz	Bill		City of Los Angeles	Department of Water and Power	Los Angeles, CA	Discuss meeting with Hill AFB
7/19/89	Rhue	Toby	Recreation Planner	USDA Forest Service	Humboldt National Forest	Ely, NV	Humboldt NF, Ely, District/SWIP
7/19/89	Thayne	Greg	Wilderness Advisor	USDI Bureau of Land Management	Utah State Office	SLC, UT	Wilderness Designation
7/20/89	Brown	Sandy		State of Idaho	Dept .of Lands, Bureau of Minerals	Boise, ID	Mining claims on state lands
7/20/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss new alternatives
7/20/89	Imgard	Wayne	Soil Scientist	USDA Soil Conservation Service		Ely, NV	Obtain soils data
7/20/89	Stanfield	Alan		Advisory Council on Historic Preservation		Golden, CO	SWIP Programmatic Agreement
7/20/89			Clerk	Millard County	County Recorder Office	Filmore, UT	Inquire about mapping for mining claims
7/20/89			Clerk	White Pine County			Inquire about mining claim mapping
7/21/89	Becker	Alice	State Archaeologist	State of Nevada	Dept. of Historic Preserv. & Arch.	Carson City, NV	Discuss PA comments
7/21/89	Cordy	Gail	Hydrologist	US Geological Survey		SLC, UT	Groundwater regulations in Utah
7/21/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Presentation slides
7/23/89	Delgroso	Mike	Land Use Planner	State Land Use Office		Carson City, NV	Baker Masterplan
7/24/89	Dunn	Michael	Physical Scientist	USDI Bureau of Mines	Western Field Operations Center	Spokane, WA	Obtain mineral claim records
7/24/89	Frampton	Fred	Archaeologist	USDA Forest Service	Humboldt National Forest	Elko, NV	Discuss Programmatic Agreement
7/24/89	Frampton	Fred	Archaeologist	USDA Forest Service	Humboldt National Forest	Elko, NV	Programmatic Agreement
7/25/89	Evans	Don		State of Nevada	Highway Department		Discussed county highway maps on route
7/25/89	Pugh	David		USDI National Park Service	Fossil Beds N.M.	Twin Falls, ID	Hagerman National Monument
7/25/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Karl phoned
7/25/89	Vandenberg	Dave	Realty Specialist	USDI Bureau of Land Management	Elko District	Elko, NV	Request new alternatives
7/26/89	Murphy	Tim	Area Archaeologist	USDI Bureau of Land Management	Elko District, Wells Resource Area		Discussed need for additional records search
7/26/89	Replogle	Ron		USDI National Park Service	Western Regional Office	San Francisco	NPS initial contact as cooperating agency
7/26/89	Vaughn	Bob	Attorney				Request information
7/28/89	Barcomb	Kathy		State of Nevada	Comm for Preservation of Wild Horses		Information on Thousand Springs
7/28/89	Carson	Gary	Area Manager	USDI Bureau of Land Management	Jarbidge RA	Boise, ID	Meeting w/David Pugh of NPS
7/28/89	Hardison	Ken		FAA	Denver District	Denver, CO	Clear zones of airport
7/28/89	Lindsey	LaMar	Archaeologist	USDI Bureau of Land Management	Richfield District	Richfield, UT	Respond to meeting memo
7/30/89			Clerk	City of Twin Falls	Chamber of Commerce	Twin Falls, ID	Talked about ownership of parks.
7/31/89	Brothers			Beehive Telephone Company			Information request
7/31/89	Fleming	Tom		BPA		Boise, ID	Mailing list addition
7/31/89	Zabarte	Ian	Council Member	Western Shoshone Indians	National Council		Meetings
8/1/89	Boggs	Bill	Outdoor Recreation Planner	USDI Bureau of Land Management	Burley District	Burley, ID	Campsites in Idaho existing and proposed
8/1/89	Dull	Garth	Clerk	State of Nevada	Department of Transportation, Air		To find directory to Nevada Airports
8/2/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Justify flight with IPCo plane 8/11
8/2/89	Morgan	Kirk		Northwest Pipeline		SLC, UT	Discuss UT oil lines
8/2/89	Murphy	Tim	Archaeologist	USDI Bureau of Land Management	Wells RA, Elko District	Elko, NV	Records search
8/2/89	Rhue	Toby	Recreation Planner	USDA Forest Service	Humboldt National Forest	Ely, NV	Cooper Canyon existing access roads
8/2/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	New NEPA regs
8/2/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Factsheet revisions
8/2/89	Wilburker	George		Questar Pipeline	ROW Department	SLC, UT	Discuss oil lines in UT
8/2/89	Zancenella	John	Archaeologist	USDI Bureau of Land Management	Schell RA, Ely District	Ely, NV	Records search

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
8/3/89	Elwood	Glen	Planner	Jerome Co.	Planning & Zoning Department		Collect data
8/3/89	Phipps	Helen	County Administrator	Twin Falls County	Appraisal District		Collect data
8/4/89	Dunn	Michael	Physical Scientist	USDI Bureau of Mines	Western Field Operations Center	Spokane, WA	Status of mineral claim search
8/4/89	Salazar	Kay	Planner	National Park Service			Calif. and Pony Express Trails
8/4/89	Turk	Chris		National Park Service	Rocky Mountain Regional Office	Denver, CO	Request copy of EIS
8/7/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss EIS
8/7/89	Murphy	Tim	Archaeologist	USDI Bureau of Land Management	Elko District	Elko, NV	Literature search
8/7/89	Napir	Mark		FAA Seattle District	Airports Division		Collect data on FAA regulations
8/7/89	Wright	Ed		Lincoln County Commissioners		Pioche, NV	SWIP Presentation
8/8/89	Glauz	Bill		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Swip helicopter/land use study coordination
8/8/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss EIS
8/8/89	Zancanella	John	Archaeologist	USDI Bureau of Land Management	Schell RA, Ely District	Ely, NV	Literature search
8/9/89	Ferrell	Yvonne	Director	State of Idaho	Department of Parks & Recreation	Boise, ID	SWIP orientation
8/9/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	July 20 meeting summary
8/9/89	Selinger	Evy		State Historic Preservation Office	Division of State History	SLC, UT	Literature search
8/10/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	8/23 Steering Committee Meeting
8/11/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Plan of Development changes
8/14/89	Sjogren	Ron	Realty Specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Discuss problems with Wildlife
8/15/89	Stanfield	Alan		Advisory Council-Historic Preservation		Golden, CO	Programmatic Agreement Changes
8/16/89	Blackeye	Heidi		Western Shoshone National Council	Duckwater Indian Reservation	Nevada	Meeting. Talked to Heidi for Raymond Yowell, Chief
8/16/89	Clifford	Paul				Cleveland, OH	Concerns with SWIP
8/16/89	Gilbertson	Larry	Wildlife Biologist	State of Nevada	Department of Wildlife	Ely, NV	Discuss sage grouse studies
8/16/89	Graham	Richard		City of Los Angeles	Department of Water and Power	Los Angeles, CA	Discuss upcoming project tasks
8/16/89	Kimble	Greg		City of Los Angeles	Department of Water and Power	Los Angeles, CA	Discuss who will take Bill Glauz's position
8/16/89	Lindsey	Kathy	Archaeologist	USDI Bureau of Land Management	Richfield District	Richfield, UT.	Sensitive Plant Species
8/16/89	Mermejo	Lauren	Natural Resource Specialist	USDI Bureau of Land Management	Elko District	Elko, NV	Definition of series compensation
8/17/89	McDonald	Lynn	Archaeologist	USDI Bureau of Reclamation	Pacific Northwest Region	Boise, ID	Minidoka Historic Site
8/17/89	McDonald	Lynn	Archaeologist	USDI Bureau of Reclamation	Pacific Northwest Region	Boise, ID	Minidoka Historic Site
8/18/89	Dunn	Michael	Physical Scientist	USDI Bureau of Mines	Western Field Operations Center	Spokane, WA	Discuss mining claims data
8/20/89	Robinson	Bill	Geologist	USDI Bureau of Land Management		Ely, NV	Obtain Mining Information
8/22/89	Barber	Mark		USDI Bureau of Land Management	Ely District	Ely, NV	Federal Candidate & State-listed Fish on Currie
8/25/89	Erikson	Duane	Habitat Biologist	State of Nevada	Department of Wildlife	Elko, NV	Lahontan Speckled Dace
8/28/89	Erikson	Duane	Habitat Biologist	State of Nevada	Department of Wildlife	Elko, NV	Fish species present at location on Kern Mtn. Quad
8/29/89	Allahyari	Ali		San Diego Gas & Electric	Transmission Planning Section	San Diego, CA	Mailing list additions.
8/29/89	Buck	Dave		State of Nevada	Department of Wildlife	Las Vegas, NV	Fish located in Spring Valley Creek
8/29/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Request maps
8/29/89	Haskins	Richard		State of Nevada	Department of Wildlife	Ely, NV	Spring Valley Springs - fish species of concern
8/31/89	Bybee	Chris Ann	Soils specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Inquire about soil survey in North Spring Valley
8/31/89	Imgard	Wayne	Soil Scientist	USDA Soil Conservation Service		Ely, NV	Soil pits near Red Hill, NV
8/31/89	Imgard	Wayne	Soil Scientist	USDA Soil Conservation Service		Ely, NV	Soil pits near Red Hill, NV
9/1/89	Cluts	Sam	Engineer	Sargent and Lundy			To send soils information to Sargent & Lundy
9/1/89	Jansen-Lute	Chris		USDI Bureau of Reclamation		Boise, ID	Contact JACL
9/1/89	Parks	Ron				Las Vegas, NV	Discuss impacts of SWIP

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
9/3/89	Bradley	Pete		State of Nevada	Department of Wildlife	Reno, NV	Status of Fish & Wildlife in Nevada
9/3/89	Radont	Randy		Utah Division of Wildlife			Special status species of Utah
9/3/89	Schwinn	Mike		Utah Divison of Wildlife Resources			Special Status species in Utah
9/4/89	Austin	George		Nevada State Museum		Las Vegas, NV	Mattonis & Baking Powder flat blue butterflies
9/4/89	Withers	Donna		US Fish & Wildlife Service			Candidate Butterflys
9/5/89	Bailey	Bill		ERI		New York, NY	Electrical effects analysis
9/5/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss route through military restricted area
9/5/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	PA Distribution
9/7/89	Gillette	David	State Paleontologist	State of Utah	Division of State History	SLC, UT	Obtain paleontology data
9/7/89	Gillette	David	State Paleontologist	State of Utah	Division of State History	SLC, UT	Obtain paleontology data
9/7/89	Green	Tom	State Archaeologist	State of Idaho	Historic Preservation Office	Idaho	Cultural resources/PA
9/7/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss progress
9/7/89	Sjogren	Ron	Realty Specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Discuss route revisions
9/7/89	Vandenberg	Dave	Realty Specialist	USDI Bureau of Land Management	Elko District	Elko, NV	Meeting for 9/15/89
9/8/89	Young	Dave		USDI Bureau of Land Management	Richfield District	Richfield, UT	Sensitive Plant Species
9/12/89	McDonald	Lynn	Archeaologist	USDI Bureau of Reclamation	Pacific Northwest Region	Boise, ID	Cultural resources
9/13/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss upcoming meeting.
9/14/89	Foree	Steve		State of Nevada	Department of Wildlife	Elko, NV	Bighorn
9/14/89	Knight	Denise		Utah Division of Wildlife Resources			Desert Dace
9/14/89	Rosenfeld	Mark		University of Utah	Museum of Natural History		Rhinichthys spp - desert dace
9/14/89	Young	David	T& E Coordinator	USDI Bureau of Land Management	Richfield District	Richfield, UT	New species of Desert Dace
9/15/89	Miller	Suzanne	Paleontology Assistant	Idaho State University	Idaho Museum of Natural History	Pocatello, ID	Obtain paleontological information for Idaho
9/15/89	Miller	Suzanne	Paleontology Assistant	Idaho State University	Idaho Museum of Natural History	Pocatello, ID.	Obtain paleontological info for Idaho
9/16/89	Carson	Gary	Area Manager	USDI Bureau of Land Management	Jarbidge RA	Boise, ID	RMP Status/Utility Corridor
9/16/89	Christiansen	John	Area Manager	USDI Bureau of Land Management	Deep Creek RA	Malad, ID	RMP Status/Corridor Designation
9/16/89	Evans	Wallace		USDI Bureau of Land Management	Idaho Falls District		RMP Status/Utility Corridor Designation
9/16/89	Wilson	Duane		USDI Bureau of Land Management	Burley District	Burley, ID	RMP Current Status/Corridor Designation
9/18/89	Kimble	Greg		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Items due for EIS & agenda
9/19/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Construction schedule
9/20/89	Frank	Barry	Cultural Resources	South Paiute Tribe		Cedar City, UT	Status of project
9/20/89	Larsen	Doug		Western Interstate Energy Board		Denver, CO	Mailing list addition
9/20/89	Zancanella	John	Archaeologist	USDI Bureau of Land Management	Schell RA, Ely District	Ely, NV	Obtain copy of White Pine Power Project Report
9/20/89	Zancanella	John	Archeologist	USDI Bureau of Land Management	Schell RA, Ely District	Ely, Nevada	Obtain copy of White Pine Power Project Report
9/21/89	Jacobs	Mike		Idaho Power Company		Boise, ID	Mailing list addition.
9/25/89	Short	Harold		USDI Bureau of Land Management			Discuss meeting.
9/25/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss project
9/26/89	Kimble	Greg		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Discuss mitigation & construction requirements
9/26/89	Laudeman	Pete	Archaeologist	USDI Bureau of Land Management	Burley District	Burley, ID	PA
9/28/89	Frank	Barry	Cultural Resources	South Pauite Tribe		Cedar City, UT	Update on project
9/29/89	Scmitt	Bruce		Utah Division of Wildlife			Species of special concern
9/29/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss management
10/2/89	Bradley	Pete		State of Nevada	Department of Wildlife	Reno, NV	Sierra Nevada Red Fox
10/2/89				JACL/Minidoka Center		Idaho	Relocation center mitigation

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
10/3/89	Lindsey	Kathy	Archaeologist	USDI Bureau of Land Management	Richfield District	Richfield, UT.	Plant Species
10/3/89	Price	Roy		USDI Bureau of Land Management	Elko District	Elko, NV	Sensitive Plant Species
10/3/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Progress with Hill AFB
10/3/89	Stevens	George		Idaho Natural Heritage Program			Sensitive species categories
10/4/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss agency contacts in NW
10/7/89				National Council of Western Shoshone		Austin, NV	Native American input
10/9/89	Eaton	Sid		Nevada Department of Wildlife			Lynx, Wolverine
10/10/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss meeting with LADWP
10/10/89	Hendricks	Al	Superintendent	USDI National Park Service	Great Basin National Park	Baker, NV	Discuss direct route and meeting date
10/10/89	Vandenberg	Dave	Realty Specialist	USDI Bureau of Land Management	Elko District	Elko, NV	Potential routing revision
10/15/89	Stiver	San		Nevada Department of Wildlife		Reno, NV	C2 Mammal species in Nevada
10/19/89	Allen	Stan		State of Idaho	Department of Fish & Game	Boise, ID	Wildlife, Fish distribution data
10/19/89	Foster	Dan		UDWR Resource Analysis Group			Wildlife inventory
10/19/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss SWIP progress
10/20/89	Bamie	Milo	Chairman	Resource Development Coord. Comm., UT			Utah state environmental guidelines-do they exist?
10/20/89	Harja	John	Staff Coordinator for RDCC	Resource Development Coord. Comm.,			Utah state environmental guidelines-do they exist?
10/20/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss Swip progress and upcoming schedule
10/20/89	Kimble	Greg		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Discuss LADWP deliverables
10/20/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss upcoming meeting with FAA & AF
10/20/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss SWIP progress
10/23/89	Erikson	Duane	Habitat Biologist	State of Nevada	Department of Wildlife	Elko, NV	Direct Route
10/23/89	Kimble	Greg		City of Los Angeles	Department of Water & Power	Los Angesles,CA	Progress on deliverables for EIS
10/23/89	Perkins	Mike		USDI Bureau of Land Management	Egan Resource Area, Ely District		Wildlife resources at Ely District
10/23/89	Podborny	Paul		USDI Bureau of Land Management	Schell Resource Area		Wildlife, Schell Resource Area
10/23/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss upcoming meeting with Air Force
10/23/89	Webster	Barry	Air Space Coordinator	Hill AFB			Discuss direct alternative
10/24/89	Vandenberg	Dave	Realty Specialist	USDI Bureau of Land Management	Elko District	Elko, NV	Set up meeting
10/25/89	Rhue	Toby	Recreation Planner	USDA Forest Service	Humboldt National Forest	Ely, NV	Cooper Wash
10/25/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss progress in setting up meeting
10/25/89	Tilzey	Ed	Environmental Coordinator	USDI Bureau of Land Management	Nevada State Office	Reno, NV	Discuss meeting with AF
10/26/89	Webster	Barry	Air Space Coordinator	Hill AFB			Discuss new alternative
10/30/89	Kienlen	Tip		Utility Spotlight		Portland, OR	Will do a piece on SWIP--covers 11 western states
10/30/89	Rock	John		Hill AFB			Discuss new alternative
10/30/89	Webster	Barry	Air Space Coordinator	Hill AFB			Discuss direct route
10/31/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss SWIP issues.
10/31/89	Tilzey	Ed	Environmental Coordinator	USDI Bureau of Land Management	Nevada State Office	Reno, NV	Discuss route through restricted area
11/1/89	Vandenberg	Dave	Realty Specialist	USDI Bureau of Land Management	Elko District	Elko, NV	Mining claims issue
11/1/89	Vandenberg	Dave	Realty Specialist	USDI Bureau of Land Management	Elko District	Elko, NV	Reroute Alternative
11/6/89	Hoffman	Steve		Raptor Research Foundation			Raptor Migration route, Goshute Mtns.
11/9/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Presentation of slides (new)
11/9/89	Holloway	Chuck		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Info on 4th Steering Committee Meeting
11/10/89	Wagner	Dave		Bureau of Reclamation	Glen Canyon Environmental Studies		Request to be on mailing list.
11/15/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss WPPP participants

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
11/16/89	Hendricks	Al	Superintendent	USDI National Park Service	Great Basin National Park	Baker, NV	Correct Steering
11/20/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss meeting
11/21/89	Erickson	Duane	Habitat Biologist	State of Nevada	Department of Wildlife	Elko, NV	Discuss habitat issues.
11/21/89	Lindenbaum	Leonard	Chief of Surveys	City of Los Angeles	Department of Water and Power	Los Angeles, CA	Discuss aerial reconaissance
11/21/89	Lindenbaum	Leonard	Chief of Surveys	City of Los Angeles	Department of Water and Power	Los Angeles, CA	Discuss helicopter needs.
11/22/89	Holloway	Chuck		City of Los Angeles	Department of Water and Power	Los Angeles, CA	Project update
11/27/89	Lindenbaum	Leonard	Chief of Surveys	City of Los Angeles	Department of Water and Power	Los Angeles, CA	Discuss helicopter needs
11/27/89	Webster	Barry	Air Space Coordinator	Hill AFB			Discuss upcoming meeting
11/28/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss upcoming meeting
12/1/89	Ann	Ruth		Juab County Commission			County Commission Meeting
12/5/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss mitigation
12/7/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss impact assessment procedure
12/15/89	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss mitigation
12/19/89	Cowperthwait	David		Department of Administration			Socioeconomic information request
12/19/89	Deadder	Pat		Nevada State Library			Socioeconomic information request
12/19/89	Porter	Alan		Idaho Department of Commerce		Boise, ID	Socioeconomic information request
12/19/89	Rajala	Karen		White Pine County Planning	White Pine Power Project	Ely, NV	Socioeconomic information request
12/19/89	Smith	Linda	Research Assistant	State of Utah	Office of Planning and Budget		Socioeconomic information request
12/19/89		Vaidy		Nevada State Demographer's Office			Socioeconomic information request
12/20/89	Hanson	Ruth	Mayor	City of Delta, Utah		Delta, UT	Socioeconomic information request
12/20/89	Smith	Linda	Research Assistant	State of Utah	Office of Planning and Budget		Socioeconomic information request
12/20/89	Young	Dave		USDI Bureau of Land Management	Richfield District	Richfield, UT	Delta Direct Routes
12/26/89	Anastassatos	George	Labor Economist	Nevada Employment Security Dept.	Security Dept.	Elko, NV	Employment/Ethnicity Data
12/27/89	Deadder	Pat		Nevada State Library			Socioeconomic information request
12/28/89	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss project alternatives
1/2/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Schedule for upcoming meetings.
1/2/90	Woolf	Jim		Salt Lake City Tribune		SLC, UT	Request a map
1/7/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Sage grouse surveys
1/11/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	ECTC EIS schedule
1/11/90	Mann	Mike		Idaho Power Company		Boise, ID	ECTC EIS schedule revised
1/11/90	Webster	Barry	Air Space Coordinator	Hill AFB			Delay in ECTC Draft EIS
1/11/90	Young	Dave		USDI Bureau of Land Management	Richfield District	Richfield, UT	
1/17/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Sage grouse surveys
1/18/90	Erikson	Duane	Habitat Biologist	State of Nevada	Department of Wildlife	Elko, NV	Sage grouse populations in Elko & White Pine Co.s
1/22/90	Kimble	Greg		City of Los Angeles	Department of Water & Power	Los Angeles, CA	ECTC EIS schedule
1/22/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Status of ECTC Draft EIS
1/23/90	Durich	Chuck		Idaho Power Company	Western Field Operations Center	Boise, ID	Purpose and need
1/23/90	Durich	Chuck		Idaho Power Company		Boise, ID	Questions regarding missing portions of P & N.
1/23/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	EMF study scope
1/23/90	Mitchell	Roger		Earth Satellite Corporation			SWIP/GIS brochure
1/23/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Meeting schedule
1/23/90	Sjogren	Ron	Realty Specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Meeting schedule
1/24/90	Erdreich	Linda		Environmental Research Information, Inc.		New York, NY	Baseline EMF measurements

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
1/24/90	Lee	Rod		USDI Bureau of Land Management	Richfield District	Richfield, UT	Meeting to discuss inventory
1/29/90	Tilzey	Ed	Environmental Coordinator	USDI Bureau of Land Management	Nevada State Office	Reno, NV	Moapa Potential Alternatives
2/5/90	Mary	Doug	Realty Specialist	USDI Bureau of Land Management	Elko District	Elko, NV	Set up meeting to Review Inventory
2/5/90	Webster	Barry	Air Space Coordinator	Hill AFB			Discuss status of ECTC EIS
2/6/90	Lindsey	LaMar	Archaeologist	USDI Bureau of Land Management	Richfield District	Richfield, UT.	Set up inventory review meeting
2/6/90	Wyatt	Steve	Range Conservationist	USDA Forest Service	Humboldt National Forest	Ely, Nevada	Set up meeting to review mineral inventory
2/8/90	Allard	Phil	Geologist	USDI Bureau of Land Management	House Ranger RA	Fillmore, UT	Review mineral inventory and assessment model
2/8/90	Chappell	Lorell	Soils Specialist	USDI Bureau of Land Management	Richfield District	Richfield, UT	Review SWIP soils inventory and assessment model
2/8/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Regulatory requirements
2/8/90	Jackson	Mike	Geologist	USDI Bureau of Land Management	Richfield District	Richfield, UT	Review geology/mineral inventory/assessment model
2/8/90	Thompson	Jim	Legal Department	Idaho Power Company		Boise, ID	Permit requirements
2/8/90	Zieg	Phil	Water resources specialist	USDI Bureau of Land Management		Richfield, UT.	Review SWIP inventory and assessment model
2/9/90	Bybee	Chris Ann	Soils specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Review soils/water inventory/assessment model
2/9/90	Bybee	Cris Ann	Soils specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Review of water inventory
2/9/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Steering committee meeting date
2/9/90	Imgard	Wayne	Soil Scientist	USDA Soil Conservation Service		Ely, NV	Review soil inventory for White Pine County, NV.
2/9/90	Kimble	Greg		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Purpose & Need
2/9/90	Robinson	Bill	Geologist	USDI Bureau of Land Management	Ely District	Ely, NV	Review geology/mineral inventory/assessment model
2/9/90	Zancanella	John	Archeologist	USDI Bureau of Land Management	Schell RA, Ely District	Ely, Nevada	Review paleontological inventory/impact assessment
2/12/90	Boggs	Bill	Outdoor Recreation Planner	USDI Bureau of Land Management	Burley District	Burley, ID	Review inventory data
2/12/90	Cook	Kirk	Soils Scientist	USDI Bureau of Land Management	Burley District	Burley, ID	Review soil/water resource inventory/assessment
2/12/90	Dee	Larry	Geologist and Soil scientist	USDI Bureau of Land Management		Shoshone, ID	Review geol.paleontology,soils,water res.inventory
2/12/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Purpose and need statement
2/12/90	Laudamon	Pete	Archaeologist	USDI Bureau of Land Management	Burley District	Burley, ID	Review paleontological inventory/assessment model
2/12/90	Peterson	Mark E.	Soil Scientist	USDA Soil Conservation Service		Gooding, ID	Review soil inventory for Gooding County.
2/12/90	Vandenberg	Dave	Realty Specialist	USDI Bureau of Land Management	Elko District	Elko, NV	SWIP inventory review
2/13/90	Ames	Dal F.	Soil Survey Party Leader	USDA Soil Conservation service		Twin Falls, ID.	Review soil inventory for Jerome and Twin Falls
2/13/90	Danzer	Dana	Soil Conservationist	USDI Bureau of Land Management	Jarbridge RA	Boise, ID	Review soils inventory and impact assessment
2/13/90	Danzer	Dana	Soil Conservationist	USDI Bureau of Land Management	Jarbridge RA	Boise, ID	Review inventory and impact assessment
2/13/90	Vinson	Mark	Water Resources Specialist	USDI Bureau of Land Management	Boise District	Boise, ID	Review water resources inventory/impact assessment
2/13/90	Vinson	Mark	Water Resources Specialist	USDI Bureau of Land Management	Boise District	Boise, ID	Review inventory and present impact assessment
2/13/90	Weasma	Ted	Geologist/Paleontologist	USDI Bureau of Land Management	Jarbridge RA	Boise, ID	Review geological,paleontological,mineral invent.
2/14/90	Carpenter	Dan	Hydrologist/Soils Specialist	USDA Forest Service	Humboldt National Forest	Elko, Nevada	Review soils and water resources
2/14/90	Frampton	Fred	Archaeologist	USDA U.S. Forest Service	Humboldt National Forest	Elko, NV	Review paleontological inventory/impact assessment
2/14/90	Hoyt	Sara	Geologist	USDI Bureau of Land Management	Elko District	Elko, NV	Review geological/mineral inventory & assessment
2/14/90	Kiracofe	Steve	Soil Scientist	USDI Bureau of Land Management	Elko District	Elko, NV	Review soils inventory and assessment
2/14/90	Murphy	Tim	Archaeologist	USDI Bureau of Land Management	Elko District	Elko, NV	Review paleontological inventory and assessment
2/14/90	Porter	Vernon		Idaho Power Company		Boise, ID	Survey from BC Hydro
2/14/90	Robin	Sandra		EEI			Transmission lines
2/14/90	Sip	Larry	Realty Specialist	USDI Bureau of Land Management	Richfield District	Richfield, UT	Review inventory data
2/15/90	Hendricks	Al	Superintendent	USDI National Park Service	Great Basin National Park	Baker, NV	Review inventory data
2/15/90	Peugh	Butch	Environmental Specialist	USDI Bureau of Land Management	Idaho State Office	Boise, ID	Impact assessment assumptions
2/15/90	Rhue	Toby	Recreation Planner	USDA Forest Service	Humboldt National Forest	Ely, NV	Review inventory data

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
2/15/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Impact assessment assumptions
2/15/90	Sjogren	Ron	Realty Specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Review inventory data
2/16/90	Bowers	Gary	Realty Specialist	USDI Bureau of Land Management	Elko District	Elko, NV	Review inventory data
2/16/90	Thornburgh	John	Realty Specialist	USDI Bureau of Land Management	Jarbridge RA	Boise, ID	Review of SWIP inventory
2/20/90	Brown	Harold	Realty Specialist	USDI Bureau of Land Management	Shoshone District	Shoshone, ID	Review inventory data
2/21/90	Baer	Ron	Geologist	USDA Forest Service	Humboldt National Forest	Elko, Nevada	Review geol.mineral, and Paleo.inv.and assessment
2/21/90	Wyatt	Steve	Range Conservationist	USDA Forest Service	Humboldt National Forest	Ely, Nevada	Review tech report mineral inventory
2/22/90	Bybee	Chris Ann	Soils specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Wind erosion along link 26.
2/22/90	Gillette	David	State Paleontologist	State of Utah	Division of State History	SLC, UT	Review paleontological inventory for Utah
2/26/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Agency review of SWIP inventory
2/27/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	
2/28/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	
2/28/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss sage grouse problem
3/1/90	Barber	Mark		USDI Bureau of Land Management	Ely District	Ely, NV	Maps of SWIP corridors
3/1/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Meetings on March 5th.
3/1/90	Rhue	Toby	Recreation Planner	USDA Forest Service	Humboldt National Forest	Ely, NV	Elk concerns on the Ely Ranger District
3/2/90	Bracken	Dan					Data needs for electrical effects study
3/2/90	Curtis	Lee		Holme, Roberts & Owen			Request for maps and information
3/2/90	Hessing	Keith		Idaho Power Co.		Boise, ID	Sun Valley Reroute
3/2/90	Kavet	Robert		ERI		Palo Alto, CA	Electrical effects study
3/2/90	Kavet	Robert		ERI		Palo Alto, CA	Materials for EMF studies
3/2/90	Leavet	Rob		ERI			Electrical Effects Data
3/5/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Schedule meeting
3/8/90	Allard	Phil	Geologist	USDI Bureau of Land Management	House Ranger RA	Filmore, UT	Information on mining claims data
3/8/90	Wolf	David	Wilderness Specialist	USDI Bureau of Land Management	Nevada State Office	Reno, NV	WSA boundary
3/9/90	Chappell	Lorell	Soils Specialist	USDI Bureau of Land Management	Richfield District	Richfield, UT	Discuss reclamation suitability of soils
3/9/90	Kiracofe	Steve	Soil Scientist	USDI Bureau of Land Management	Elko District	Elko, NV	Soil suitability for reclamation
3/9/90	Partridge	Allen	Planner	USDI Bureau of Land Management	Richfield District	Richfield, UT	Soils suitability for reclamation
3/9/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss cummulative impacts
3/10/90	Young	Norm		Idaho Department of Water Resource			Stream channel alteration permit
3/13/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Draft response to the Tonapah RMP.
3/13/90	Young	Dave		USDI Bureau of Land Management	Richfield District	Richfield, UT	SWIP Technical Report - Utah species of concern
3/14/90	Cook	Kirk	Soils Scientist	USDI Bureau of Land Management	Burley District	Burley, ID	Hazardous materials within right-of-way
3/15/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Next steering committee meeting date
3/15/90	Webster	Barry	Air Space Coordinator	Hill AFB			Status of ECTC EIS
3/16/90	Poulson	Pam	Marketing	State of Utah Arboretum	University of Utah	SLC, Utah	Utah vegetation information
3/19/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Schedule steering-committee meeting
3/20/90	Anastassatos	George	Labor Economist	Nevada Employment Security Dept.	Security Dept.	Elko, NV	Employment sector
3/20/90	Hyer	Janelle	Research Analyst	State of Idaho	Department of Employment		Labor force & Unemployment annual average
3/20/90	Hyer	Janelle	Research Analyst	State of Idaho	Department of Employment	Boise, ID	Information
3/22/90	McCarthy	Tom		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Upcoming meeting schedule
3/22/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Confirm meeting dates
3/22/90	Williams	Joe		Nevada Department of Wildlife		Wells, NV	Bighorn Sheep - SWIP

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
3/26/90	Kavet	Robert		ERI		Palo Alto, CA	Electrical Effects data
4/2/90	Gillette	David	State Paleontologist	State of Utah	Division of State History	SLC, UT	Impact assessment criteria-paleontology
4/2/90	Holloway	Chuck		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Management contact changes
4/3/90	Ballantyne	Judy	Consulting geochemist	Ballantyne Geochemisty		SLC, Utah	Bulk minable gold impact assessment
4/4/90	Firby	Jim	Paleontologist	University of Nevada		Reno, NV	Review of Nevada Paleontology
4/4/90	Firby	Jim	Paleontologist	University of Nevada/Reno		Reno, NV	Review inventory/assess. & approach-paleontology
4/6/90	Firby	Jim	Paleontologist	University of Nevada/Reno		Reno, NV	Discuss review of Inventory/Impact Assessment
4/6/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Purpose and Need
4/6/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discussed next steering committee agenda
4/8/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss scoping meetings
4/9/90	Tilzey	Ed	Environmental Coordinator	USDI Bureau of Land Management	Nevada State Office	Reno, NV	Sunrise Mountain WSA
4/10/90	Young	Bart	Team Captain	USDI National Park Service	Great Basin National Park	Denver, CO	Progress with SWIP studies
4/13/90	Rosentreter	Roger	Botanist	USDI Bureau of Land Management	Idaho State Office	Boise, ID	Additional Sensitive Plant Species
4/16/90	Holloway	Chuck		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Discuss SWIP steering committee meeting
4/19/90	Peugh	David	Superintendent	USDI National Park Service	Hagerman Fossil Beds Nat. Mon.	Hagerman, ID	Hagerman visitors center
4/20/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discussion about ROW permit
4/23/90	Skaggs	Forrest	Communications Engineer	Idaho Power Company		Boise, ID	SWIP Microwave Sites
4/24/90	Barss	John		USDI Bureau of Land Management		Elko, Nevada	EA and EIS
4/24/90	Rosentreter	Roger	Botanist	USDI Bureau of Land Management	Idaho State Office	Boise, ID	Sensitive Plant Species
4/24/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discussed potential need for alternative coming
4/25/90	Arlidge	John	Senior VP for Gvnt. Affairs	Nevada Power Company		Nevada	Resource Plans
4/25/90	Holloway	Chuck		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Resource plans
4/26/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Requested copy of meeting notes.
4/26/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Can substation be on public land?
4/26/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Request an alternative structure type for crosstie
4/26/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Substation and communication site permits
5/1/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	ROW application cover letter
5/1/90	Hopkins	Randy		Idaho Power Company		Boise, ID	Microwave Project Description
5/1/90	Porter	Vernon		Idaho Power Company		Boise, ID	Information for Preliminary COM Plan
5/1/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	ROW application
5/2/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Mailing address
5/4/90	Mieding	Jim		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Data for WPPP corridor
5/8/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss SWIP deadlines
5/8/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Midpoint to Harry Allen Auth.
5/13/90	Hendricks	Al	Superintendent	USDI National Park Service	Great Basin National Park	Baker, NV	Discuss environmentally preferred route
5/15/90	Findon	Eric	Environmental Coordinator	City of Los Angeles	Department of Water & Power	Los Angeles, CA	SWIP Purpose and Need
5/15/90	Hoffman	Bill		State of Nevada	Department of Transportation		Growth figures for state of Nevada
5/15/90	Jeffreys	Betty		State Department Center		Arizona	Percentage of population growth in Arizona
5/16/90	Findon	Eirc	Environmental Coordinator	City of Los Angeles	Department of Water & Power	Los Angeles, CA	deliverables needed for SWIP.
5/16/90	Lowe	Teresa		State Data Center (Washington)			Percentage of population growth in Washington
5/16/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Update on SWIP activities
5/16/90	Wickstrom	Jerry	Environmental Coordinator	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	SWIP expanded scope
5/21/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Contruction/Cost Information/Rate increase

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5/21/90	West	Marion	Gen. Superint. of Const..	IRBY Construction			Construction employment info
5/22/90	Mureau	Ted					SWIP Purpose & Need
5/23/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Conference call on the newsletter review
5/23/90	Wickstrom	Jerry	Environmental Coordinator	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Agency Counterparts.
5/24/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	NEPA compliance logistics
5/25/90				B Kitten Klean Campground		Millard Co., UT	Inquire about facilities
5/25/90				Department of Fish & Game			Gather information on Idaho campgrounds
5/25/90				Forest Service - Utah			Inquire about camping facilites
5/25/90				Forest Service Millard Co.			Inquire about camping facilities
5/25/90				Gooding Chamber of Commerce			Inquire about facilites
5/25/90				Hagerman City Hall			No answer
5/25/90				Idaho Department of Commerce			Gather information on Idaho campgrounds
5/25/90				Idaho State Parks & Recreation			Gather information on Idaho campgrounds
5/25/90				Idaho Travel Council			Gather information on Idaho campgrounds
5/25/90				KOA		Juab Co., UT	Inquire about facilites
5/25/90				Miracle Hot Springs			Inquire about recreation facilities
5/25/90				NV Commission of Tourism			Gather information on public campgrounds
5/25/90				Rock Lodge & Creekside RV Park			Inquire about facilities
5/25/90				Sawtooth National Forest			Gather information on Idaho campgrounds
5/25/90				Sligar Thousand Springs			Inquire about facilities
5/25/90				Sportsman River Resort			Inquire about facilities
5/25/90				Utah Travel Council			Inquire about camping facilites
5/25/90				Wagon West Campsite		Mallard Co., UT	Inquire about facilities
5/25/90				White Pine Chamber of Commerce (NV)			Gather information on public campgrounds
5/25/90				Yuba State Park			Inquire about camping facilites
6/4/90	Merkler	Doug	Soil Scientist	Soil Conservation Service		Caliente, NV	Obtain Soils Data
6/5/90	Bodman	Cory	Soils and Water Specialist	USDI Bureau of Land Management		Caliente, NV	Obtain Soils Inventory Information
6/5/90	Chatterton	Mark	Geol. and Mineral Specialist	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Obtain geologic and mineral information
6/5/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	SWIP Purpose and need
6/5/90	Rolf	Stan	Archaeologist	USDI Bureau of Land Management		Las Vegas, NV	Obtain Paleontological data
6/6/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	SWIP Purpose and Need
6/6/90	Siebert	Don	Water Resources Specialist	USDI Bureau of Land Management		Las Vegas, NV	Collect soils and water inventory information
6/6/90				Bureau of Land Management	Elko District	Elko, NV	Gathering information on recreation sites
6/7/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	SWIP Purpose and Need
6/7/90	Netcher	Dan	Geologist	USDI Bureau of Land Management	Ely District	Ely, NV	Collect geol. and mineral inventory information
6/7/90	Rugger	Jay	Soils Specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Obtain Soils Inventory information
6/8/90	Holloway	Chuch		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Followup on missing centerline mapping (WPPP)
6/11/90	Merkler	Doug	Soil Scientist	Soil Conservation Service		Caliente, NV	Obtain soil information
6/11/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	SWIP Schedule
6/11/90	Sjogren	Ron	Realty Specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Mgmt. contact for expanded studies
6/12/90	Briggs	Paul		USDI Bureau of Land Management	Richfield District	Richfield, UT	Threatened and endangered plant species
6/12/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	SWIP Purpose and Need
6/12/90	Knight	Terri		University of Nevada	Nevada Natural Heritage Program	Las Vegas, NV	Threatened and Endangered Plant Species

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6/12/90	Steinmentz	Jeff	Botanist	USDI Bureau of Land Management	Las Vegas	Las Vegas, NV	Threatened and endangered plant species
6/13/90	Findon	Eric	Environmental Coordinator	City of Los Angeles	Department of Water & Power	Los Angeles, CA	SWIP Purpose and need
6/13/90	Mann	Mike		Idaho Power Company		Boise, ID	Cummulative effects
6/13/90	Sjogren	Ron	Realty Specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Agency Scoping Meeting Schedule
6/13/90	Tucker	Curtis	Resource Area Manager	USDI Bureau of Land Management	Caliente Resource Area	Caliente, NV	Management Contact
6/13/90	Wickstrom	Jerry	Environmental Coordinator	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Agency Scoping Meeting
6/14/90	Porter	Vernon		Idaho Power Company		Boise, ID	SWIP Purpose and Need
6/15/90	Mann	Mike		Idaho Power Company		Boise, ID	Ultimate buildout - cumulative impacts.
6/15/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	6th Steering committee meeting
6/17/90	Beckman	Gary	Geologist	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Obtain inventory information
6/17/90	Lacy	Larry	Geologist	USDI Bureau of Land Management	Caliente RA	Caliente, NV	Obtain inventory information
6/18/90	Darrick	Chuck		IPCo			Chart supply and demand in WSCC
6/18/90	Simons	Dick	WSLC			Salt Lake City	Chart suppy and demand in WSLC
6/21/90	Apple	Kent	Air Space Manager	Mountain Home AFB		Mtn. Home, ID	Requested copy of EIS
6/22/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Status of EMF studies
6/26/90	Ragland	Paul		USDA Soil Conservation Service		Tonopah, NV	Obtain Soils inventory information
6/28/90	Hardman	John	Soil Scientist	USDA Soil Conservation Service		Tonopah, NV	Obtain Soils Information
6/28/90	Simpson	Phu		Fed. Emergency Management Agency	Flood Control Dept. of Public Works	Las Vegas, NV	To obtain flood insurance maps (FEMA)
6/28/90		Marge		Lincoln County Assessors Office			Obtain FEMA flood ins. maps
6/28/90				Office of Planning		Nye City, NV	Obtain FEMA flood insurance maps
7/2/90	DeWitt	Floyd	Soil Scientist	USDI Bureau of Land Management		Shoshone, ID	Inital impact tables (soils)
7/2/90	Porter	Vernon	Engineer	Idaho Power Company		Boise, ID	How to construct in marsh areas
7/2/90	Rugger	Jay	Soils Specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Initial Impact Tables (soils)
7/3/90	Findon	Eric	Environmental Coordinator	City of Los Angeles	Department of Water & Power	Los Angeles, CA	Upcoming meeting dates
7/5/90	Culp	Major Toni	Air Space Manager	Nellis AFB		Nellis AFB, NV	Discuss MOAS on WPPP corridor
7/5/90	Porter	Vernon	Engineer	Idaho Power Company		Boise, ID	Discuss construction options in marsh
7/5/90	Wardlaw	John	Principle Planner	Clark County Planning Commission		Las Vegas, NV	Planning and Zoning
7/6/90	Herron	Gary		State of Nevada	Department of Wildlife	Reno, NV	Raptor distribution data for Nevada
7/6/90	Tilzey	Ed	Environmental Coordinator	USDI Bureau of Land Management	Nevada State Office	Reno, NV	Request maps on WPPP corridor
7/6/90	Williams	Ron	Planner	Nye County	Planning & Zoning	Tonopah, NV	Planning and Zoning
7/6/90				USDI NV Department of Wildlife		Las Vegas, NV	
7/9/90	Taylor	Bob	Recreation Planner	USDI Bureau of Land Management		Las Vegas, NV	Data collection of Southern SWIP Route
7/9/90	Taylor	Bob	Recreation Planner	USDI Bureau of Land Management		Las Vegas, NV	Data collection of Southern SWIP Route
7/9/90	Tebeau	Marrin		Resource Concepts		Carson City, NV	Map requested
7/10/90	Culp	Major Toni	Air Space Manager	Nellis AFB		Nellis AFB, NV	Meeting on airspace requirements
7/10/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	White Pine Power Project Corridor Surveys
7/10/90	Holloway	Chuck		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Discuss desert tortoise surveys.
7/10/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss WPPP corridor alternatives.
7/11/90	Findon	Eric	Environmental Coordinator	City of Los Angeles	Department of Water & Power	Los Angeles, CA	Meeting with Nellis AFB
7/11/90	Rajala	Jake	Recreation Planner	USDI Bureau of Land Management	Ely District	Ely, NV	Data collection SWIP
7/11/90	Rhue	Toby	Recreation Planner	USDA Forest Service	Humboldt National Forest	Ely, NV	FS concerns about SWIP
7/11/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Request maps for Las Vegas District

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7/11/90	Weber	Steve		Merrick			Survey information on WPPP corridor
7/12/90	Sullivan	Mike		Sierra Pacific			Discuss SWIP EIS Schedule
7/13/90	Hasenhoerl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	SWIP Cultural Resource Studies
7/15/90	Porter	Vernon	Engineer	Idaho Power Company		Boise, ID	Discuss construction options in marsh
7/16/90	Beckman	Gary	Geologist	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Initial contact with Stateline Resource Area Geol.
7/16/90	Skaggs	Forest	Communications Engineer	Idaho Power Company		Boise, ID	Communications sites along WPPP corridor
7/16/90	Taylor	Bob	Recreation Planner	USDI Bureau of Land Management		Las Vegas, NV	Mapping Mormon Trail
7/16/90	Tilzey	Ed	Environmental Coordinator	USDI Bureau of Land Management	Nevada State Office	Reno, NV	Discuss WPPP corridor alternatives
7/17/90	Mitchell	Roger		EarthSat			Status of TM classification
7/17/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Nellis AFB meeting
7/17/90	Tebeau	Marvin		Resource Concepts		Carson City, NV	Aerojet property
7/18/90	Imgard	Wayne	Soil Scientist	USDA Soil Conservation Service			Soil survey along Highway 93 S. of Majors Place
7/18/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Alternative routes to WPPP corridor
7/18/90	Sjogren	Ron	Realty Specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Status of base maps
7/18/90	Wore	Rick	District Conservationist	Soil Conservation Service			Ask for soil survey for Alt. N. of Dry Lake
7/19/90	Williams	Ron	Planner	Nye County	Planning & Zoning	Tonopah, NV	Nye County commissioner meeting
7/20/90	Holloway	Chuck		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Discuss mtg. with Nellis AFB
7/20/90	Park	Ron				Pahrump, NV	Status of SWIP
7/20/90	Wickstrom	Jerry	Environmental Coordinator	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	New alternative for SWIP
7/23/90	Culp	Major Toni	Air Space Manager	Nellis AFB		Nevada	Upcoming meeting with Nellis AFB
7/23/90	Howald	Kevin		Earth Satellite Corporation		Rockville, MD	Schedule of TM classification
7/23/90	Robinson	Loren	Water Resource Specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Water Resource Inventory for Ely District
7/24/90	Dunn	Michael	Physical Scientist	USDI Bureau of Mines	Western Field Operations Center	Spokane, WA	Obtain mineral claim records
7/24/90	Lacy	Larry	Geologist	USDI Bureau of Land Management	Caliente RA	Caliente, NV	Discuss geology and mineral inventory
7/25/90	Murphy	Tim	Archaeologist	USDI Bureau of Land Management	Caliente Resource Area	Caliente, NV	Invoice for scoping meeting
7/25/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Impact assessment reveiw process
7/26/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID.	Ron Reploge (NP'S) on agency distribution list
7/27/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discussed White River Valley alternative
7/30/90	Holloway	Chuck		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Discuss White River Valley alternative
8/1/90	Kiracofe	Steve	Soil Scientist	USDI Bureau of Land Management	Elko District	Elko, NV	Discuss water inventory
8/4/90	Dunn	Michael	Physical Scientist	USDI Bureau of Mines	Western Field Operations Center	Spokane, WA	Status of mineral claim search
8/6/90	King	Neil	Manager	National Park Service		Hagerman, ID	Set up meeting to discuss SWIP impact assessment
8/6/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Meeting schedule
8/6/90	Young	Dave		USDI Bureau of Land Management	Richfield District	Richfield, UT	Leland Harris Spring
8/7/90	Bradhurst	Steve	Director of Planning	Tonopah County		Reno, NV	Request for information
8/7/90	Findon	Eric	Environmental Coordinator	City of Los Angeles	Department of Water & Power	Los Angeles, CA	Info on Delta substation site
8/8/90	Porter	Vernon	Engineer	Idaho Power Company		Boise, ID	Water needs for construction
8/9/90	Benton	Bob		US Fish & Wildlife Service			Sensitive Species associated with Leland Harris
8/9/90	Knight	Denise		Utah Division of Wildlife Resources			Least chub
8/10/90	Campsey	Lee	District Conservationist	USDA Soil Conservationist Service		Elko, NV	Determine criteria for prime farmland
8/10/90	Findon	Eric	Environmental Coordinator	City of Los Angeles	Department of Water & Power	Los Angeles, CA	Water use and aquisition during construction
8/10/90	Findon	Eric		LADWP		Los Angeles, CA	Site selection for substation
8/10/90	Pugh	David	Superintendent Manager	USDA National Forest Service			Review impact assessment

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
8/10/90	Zieg	Phil	Water resource specialist	USDI Bureau of Land Management		Richfield, UT	Ask if best mgt. practices manual is available
8/13/90	Gardner	Eddie	Soil Scientist	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Discuss inventory methods
8/14/90	Evans	Jim	Soil conservationist	USDA Soil Conservation Service		Elko, Nevada	Alkali flat and desert pavement characterization
8/14/90	Lebsek	Delinia	Grazing clerk	USDI Bureau of Land Management	Burley District	Burley, ID	Grazing allotments
8/14/90	Price	Roy	District Biologist	USDI Bureau of Land Management	Elko District	Elko, NV	District policy
8/15/90	Young	Dave		USDI Bureau of Land Management	Richfield District	Richfield, UT	Sensitive species
8/16/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss revised goal for Denver meeting
8/16/90	Mendenholl	Melania	Supervisor Range Conserv.	USDI Bureau of Land Management	Warm Springs RA	Filmore, UT	Discuss range allotments
8/16/90	Mendenholl	Melania	Supervisor Range Conserv.	USDI Bureau of Land Management	Warm Springs RA	Filmore, UT	To order document
8/17/90	Gardner	Eddie	Soil Scientist	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Discuss need for detailed inventory
8/17/90	Kiracofe	Steve	Soil Scientist	USDI Bureau of Land Management	Elko District	Elko, NV	Discuss need for clay soils inventory
8/17/90	Mayberry	Rick	Supr. Range Consv.	USDI Bureau of Land Management	Monument RA	Shoshone, ID	Discuss range allotments
8/17/90	Thomburgh	John	Realty Specialist	USDI Bureau of Land Management	Jarbridge RA	Boise, ID	Discuss route summary tables
8/20/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Confirmation of SWIP Steering Committee Meeting
8/21/90	Boltz	Mike	Range Conservationist	USDI Bureau of Land Management	Jarbridge RA	Jarbridge, ID	Grazing allotments
8/21/90	Findon	Eric	Environmental Coordinator	City of Los Angeles	Department of Water & Power	Los Angeles, CA	Water use for construction
8/21/90	Kiracote	Steve	Soil Scientist	USDI Bureau of Land Management	Elko District	Elko, NV	Discuss saline soils and steep terrain impacts
8/22/90	Holloway	Chuck		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Notify of canceled Denver Meeting
8/24/90	Tolzman	Rob	Engineer	Utah Power and Light		Utah	Utilities around Harry Allen
8/27/90	Stienmitz	Jeff		USDI Bureau of Land Management	Stateline RA	Las Vegas, NV	Range Allotments
8/29/90	Alexander	Roger	Stateline RMP Coordinator	USDI Bureau of Land Management	Stateline RA		Stateline RMP/Utility corridors
8/29/90	Bracken	Dan		Dan Bracken			Progress on report for EMF
8/29/90	Findon	Eric	Environmental Coordinator	City of Los Angeles	Department of Water & Power	Los Angeles, CA	Review of Purpose and Need
8/29/90	Peterson	Chris		Earth Sat.		Chevy Chase, MD	
8/29/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Review of Dry Lake alternatives
8/29/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Upcoming steering committee meeting
8/30/90	Holloway	Chuck		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Discuss Mitigation
8/31/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	SWIP progress
9/2/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Comments on Purpose & Need
9/12/90	Mann	John		Utah Division of Water Rights			Water Rights information in Utah
9/13/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss WPPP Record of Decision
9/14/90	Sip	Larry	Realty Specialist	USDI Bureau of Land Management	Richfield District	Filmore, UT	Concern with Impact Results
9/14/90	Sjogren	Ron	Realty Specialist	USDI Bureau of Land Management	Ely District	Ely, NV	SWIP progress
9/17/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Comments on Purpose & Need
9/18/90	Hulse	Frank	County Assessor	Lincon County		Pioche, NV	Requested Master Title Plats
9/18/90	Lynch	Bill	Engineer	Lincoln County Power Company			To find right of way along Highway 93
9/18/90	Moralis	Heidi	Engineer	State of Nevada	Department of Transportation		To find out right of way of US 93
9/18/90	Wolf	Dave	Wilderness Coordinator	USDI Bureau of Land Management	Nevada State Office	Reno, NV	To get Wilderness Study Area boundaries
9/19/90	Donaldson	Rick	Proj Mngr, Biol. Regul. Sect.	U.S. Army Corps of Engineers	Sacramento District Regulatory Sect.	Sacramento, CA	Determine if Wetland Maps are available
9/19/90	White	Bill	Geologist	Bureau of Mines		SLC, UT	Discuss Classification of Minerals
9/24/90	Dunn	Mike	Physical Scientist	USDI Bureau of Mines	Western Field Operations Center	Spokane, WA	Confirm statement regarding gold reserve
9/24/90	Jackson	Michael	Geologist	USDI Bureau of Land Management	Richfield District	Richfield, UT	Confirm no landslide areas present

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
9/24/90	Netcher	Dan	Geologist	USDI Bureau of Land Management	Ely District		Define mineral potentials
9/24/90	Pennington	Dana	Environmental Health Spec.	Nev. Consumer Health Protection Service			Regulations regarding const. near springs & wells
9/24/90	Saunders	Rob	Environmental Specialist	Nevada Dept. of Cons. & Nat. Res.			Regulations reg. const. near springs & waterwells
9/25/90	Allard	Phil	Geologist	USDI Bureau of Land Management	House Ranger RA	Fillmore, UT	Confirm geology and mineral information
9/25/90	Merkler	Doug	Soil Scientist	Soil Conservation Service		Caliente, NV	Description of soils in Lincoln Co.
9/28/90	Dondero	Steve	Range Conservationist	USDI Bureau of Land Management	Elko District	Elko, NV	Schedule of deliverables
10/1/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	delivery of preparers and contributors
10/5/90	Findon	Eric	Environmental Coordinator	City of Los Angeles	Department of Water & Power	Los Angeles, CA	Preliminary Sunrise Mtn. EA
10/8/90	Bernard	Joyce		Lincoln County	Department of Planning & Zoning	Shoshone, ID	Verify Zoning requirements
10/9/90	Findon	Eric	Environmental Coordinator	City of Los Angeles	Department of Water & Power	Los Angeles, CA	Sunrise legislation and inventory review meeting
10/9/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Update on SWIP progress
10/9/90	Sjogren	Ron	Realty Specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Request for additional information
10/9/90		Helen		Planning Commission		Gooding, ID	Verify Right of Way Acquisition
10/10/90	Sip	Larry	Realty Specialist	USDI Bureau of Land Management	Richfield District	Filmore, UT	Discuss SWIP review
10/10/90	Wickstrom	Jerry	Environmental Coordinator	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Discuss SWIP Inventory Review
10/11/90	Boucher	George		Elko County	Planning Department	Elko, NV	Clarify Zoning Requirements
10/11/90	Lloyd	Bill		Lincoln County Planning Commission			Clarify permit requirements
10/15/90	Firby	Jim	Paleontologist	University of Nevada/Reno		Reno, NV	Review of Paleontology in Nevada
10/15/90	Wickstrom	Jerry	Environmental Coordinator	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Agency review of inventory
10/16/90				USDI Bureau of Land Management		Las Vegas, NV	Tech. Report Inventory Section Review Meetings
10/18/90	Skaggs	Forest	Communications Engineer	Idaho Power Company		Boise, ID	Communication Facilities
10/19/90	Cantou	Pierre	Paralegal Specialist	Bureau of Indian Affairs	Rights Protection Branch	Phoenix, AZ	Indian Lands
10/22/90	Dondero	Steve	Range Conservationist	USDI Bureau of Land Management	Wells Resource Area	Utah	Update SWIP activities
10/24/90	Bee	Dennis	Air Space Manager	Nellis Air Force Base	Air Space Control	Nellis AFB, NV	Status of SWIP concerns
10/25/90	Nesgos	George	Senior Project Manager	Chas. T. Main, Inc.	Prudential Center	Boston, MA	Add to Mailing List
10/25/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	SWIP Meeting dates
10/30/90	Simonson	Karl	SWIP Project Coordinator	USDI Burea of Land Management	Burley District	Burley, ID	Meeting Arrangements
10/30/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss meeting schedule
11/1/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Set up conference call
11/1/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Arrange Conference Call
11/1/90	Wickstrom	Jerry	Environmental Coordinator	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Discussed project issues
11/2/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss Desert Tortoise issues
11/2/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Documentation of Agency review
11/5/90	Shaw	Garland	Range Conservationist	Forest Service	Phillipsburg District	Phillipsburg,MO	Gather Range Allotment information
11/6/90				USDI Bureau of Land Management		Las Vegas, NV	Tech. Report Impact Assessment Review Meeting
11/9/90	Bouwer	Doug		USDI Bureau of Land Management	Utaho State Office	SLC, UT	Surface Rights of Mining Claims
11/9/90	Hoyt	Sara	Geol. and Min. Specialist	Bureau of Land Management	Elko District	Elko, NV	Mineral Resource Potential for Elko District
11/12/90	Maley	Terry	Branch Chief	USDI Bureau of Land Management			Surface Rights of Mining Claims
11/14/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Meeting on SWIP
11/14/90	Holloway	Chuck		City of Los Angeles	Department of Water and Power	Los Angeles, CA	upcoming meeting on Arrow Canyon
11/14/90	Stewart	Dennis		Idaho Power Company		Boise, Idaho	Substation construction for Sims's
11/14/90	Wickstrom	Jerry	Environmental Coordinator	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Arrow Canyon Issues
11/20/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss GIS value to process

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
11/21/90	Siebert	Don	Water Resource Specialist	USDI Bureau of Land Management		Las Vegas, NV	Review of inventory and impact table
11/22/90	Tilzey	Ed	Environmental Coordinator	USDI Bureau of Land Management	Nevada State Office	Reno, NV	Discuss Aerojet issues
11/26/90	Vandenberg	Dave	Realty Specialist	USDI Bureau of Land Management	Elko District	Elko, NV	Issues on route selection
11/28/90	Findon	Eric	Environmental Coordinator	City of Los Angeles	Department of Water & Power	Los Angeles, CA	Discuss substation sites near Delta
11/29/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss memo from Elko District
12/5/90	Findon	Eric	Environmental Coordinator	City of Los Angeles	Department of Water & Power	Los Angeles, CA	Discuss Delta substation siting
12/5/90	Hendricks	Al	Superintendent	USDI National Park Service	Great Basin National Park	Baker, NV	Discuss steering committee meeting
12/14/90	Mary	Doug	Range Conservationist	USDI Bureau of Land Management	Elko District	Elko, NV	Request Range improvement data
12/18/90	Hendricks	Al	Superintendent	USDI National Park Service	Great Basin National Park	Baker, NV	Request for Information
12/18/90	Peugh	David	Superintendent	USDI National Park Service	Hagerman Fossil Beds Nat. Monum	Hagerman, ID	Discuss Meetings
12/19/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Budget Realignment
12/19/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Visual Impact Results
12/20/90	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Confirm meeting in Ely
12/28/90	Gillette	David	State Paleontologist	State of Utah	Division of State History	SLC, UT	Obtain Utah State Paleo Regulations
12/29/90	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Clarify Steptoe to Delta routes
1/4/91	Hendricks	Al	Superintendent	USDI National Park Service	Great Basin National Park	Baker, NV	Requested information about Jan. 14 meeting
1/4/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Upcoming Meetings
1/4/91	Vandenberg	Dave	Realty Specialist	USDI Bureau of Land Management	Elko District	Elko, NV	Upcoming Public workshops
1/7/91	Skoguard	Mike		Western Area Power Administration		Salt Lake City	Lloyd Nelson retired, new contact - Jim Tomsik
1/10/91	Crane	Dale		National Parks & Conservation Assoc.	NW Regional Office	Des Moines, WA	Asked to be added to the SWIP mailing list
1/10/91	Rhue	Toby	Recreation Planner	USDA Forest Service	Humboldt National Forest	Ely, NV	Upcoming meeting
1/11/91	Tilzey	Ed	Environmental Coordinator	USDI Bureau of Land Management	Nevada State Office	Reno, NV	Aerojet Management
1/11/91				Nye County Court House	Recorder's Office		Obtain Mining Claim Information
1/15/91	Lyons	Danny	Mapping	Nevada Department of Transportation			Location of Scenic Hwy 93
1/16/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	BLM meetings 1/14/91
1/17/91	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Purpose & Need
1/17/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Visual Resource Database
1/17/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	EIS printing and distribution
1/18/91	Sawyer	Paul	Wildlife Biologist	USDI Bureau of Land Management	Richfield District	Richfield, UT	Springs of Snake Valley (Leland Harris, Miller
1/18/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Management
1/22/91	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss Moapa Corridor
1/23/91	Moralis	Heidi		State of Nevada	Department of Transportation		Determine ROW for Hwy 7
1/24/91	Wickstrom	Jerry	Environmental Coordinator	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Las Vegas Public Planning Workshop
1/25/91	Kavet	Rob		ERI		Palo Alto, CA	Status on "Combined" EMF Report
1/25/91	Pearce	Mark	Wildlife Biologist	USDI Bureau of Land Management	Fillmore District	Fillmore, UT	Snake Valley (Leland Harris Spring Complex)
1/28/91	Wickstrom	Jerry	Environmental Coordinator	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Request Moapa Legislation
1/30/91	Moralis	Heidi	Engineer	State of Nevada	Department of Transportation		ROW boundary for Highway 7 S. of Aerojet
1/30/91	Nelson	George	Wilderness Coordinator	USDI Bureau of Land Management	Idaho State Office	Boise, ID	Wilderness Documents Request
1/31/91	Lee	Rod		USDI Bureau of Land Management	Richfield District	Richfield, UT	Discuss Routes and Unused Links
1/31/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	
2/1/91	Sjogren	Ron	Realty Specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Inquire about WSA's
2/4/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Routes in Elko County
2/5/91	Sjogren	Ron	Realty Specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Status of Wilderness issue

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
2/5/91	Tucker	Curtis	Resource Area Manager	USDI Bureau of Land Management	Caliente Resource Area	Caliente, NV	Public Planning Workshop
2/6/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Requested information on Links 2 & 3
2/7/91	Bee	Dennis	Air Space Manager	Nellis Air Force Base	Air Space Control	Nellis AFB, NV	Upcoming Workshops
2/8/91	Lee	Rod		USDI Bureau of Land Management	Richfield District	Richfield, UT	Discuss Leland Harris Springs Complex
2/11/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Routing issues in Elko County
2/11/91				Bristlecone Convention Center			Room verification/Set up for Public Planning Wksp
2/11/91				City Council Chambers			Room verification/set up for public planning wksp
2/13/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Pahranagat Wash
2/14/91	Shirley	Dennis	Fisheries Biologist	Utah Division of Wildlife Resources		Springville, UT	Scheduling of Leland Harris Spring site visit
2/25/91	Hendricks	Al	Superintendent	USDI National Park Service	Great Basin National Park	Baker, NV	Status of Visual Analysis
2/26/91	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Recent Cost Estimates
2/26/91	Reagan	Jerry	Planning Director	Millard County	Planning & Zoning	Delta, UT	C.U.P Process
2/26/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley,ID	Outstanding SWIP issues
2/27/91	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Requested informational maps
2/27/91				Clare County Planning Commission			C.U.P. Process
2/28/91	Holloway	Chuck		City of Los Angeles	Department of Water and Power	Los Angeles,CA	Cost of IPP Substation
2/28/91	Rorris	Dan	Field Appraiser	Cassia County Assessors			Tax Rate/Assessed Value
2/28/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Ongoing SWIP issues
2/28/91	Sjogren	Ron	Realty Specialist	USDI Bureau of Land Management	Ely District	Ely,NV	Obtain copy of memo
2/28/91	Wolf	Dave	Wilderness Coordinator	USDI Bureau of Land Management	Nevada State Office	Reno, NV	Discuss Crossing of WSA vs. 69kV
3/1/91		Beth		Cassia County	County Treasurer's Office		Data
3/4/91	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss eng. analysis of SWIP, UNTP, WPPP lines
3/4/91	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise,ID	Management
3/4/91	Hendricks	Al	Superintendent	USDI National Park Service	Great Basin National Park	Baker, NV	Discuss BLM memo
3/4/91	Kavet	Rob		ERI		Palo Alto, CA	Status of EMF Report/Stop Work
3/18/91	Kavet	Rob		ERI			No more invoices
3/18/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Request for information
3/18/91		Linda		Western Aerial Reserarch			Accuracy of LORAN system
3/19/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Sage grouse information
3/20/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Sage grouse surveys
3/21/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Request for SWIP Link summary
3/22/91	McNarie	Don	Real Estate Specialist	Boise, ID	Idaho Department of Lands	Boise, ID	Update land Exchanges
3/28/91	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Pahranagat Wash Issues
3/29/91	Kavet	Rob		ERI			Contract with Dan Bracken
4/2/91	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Interval of Dead end towers
4/2/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Several SWIP issues
4/16/91	Findon	Eric	Environmental Coordinator	City of Los Angeles	Department of Water & Power	Los Angeles, CA	Follow up call - Wilderness Bill in Utah
4/16/91	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Impact data and estimated construction cost
4/16/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Response to Ely memo from Tilzy/Simonson
4/25/91	Rigg	Helen		Air Quality Board of Idaho		Boise, ID	Air Quality Regs
4/26/91	Dondero	Steve	Range Conservationist	USDI Bureau of Land Management	Elko District	Elko, NV	Discussion of Simulation
4/26/91	James	John	Climatologist	University of Nevada Reno			Climatic Data
4/26/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Scope of Biological Assessment

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
				Air Quality Board			Air Quality
5/1/91	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Southern Nevada issues
5/2/91	Dunham	Fred		Nevada Power & Light	Communications		Existing Microwaves
5/2/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Moapa alternatives
5/3/91	Sjogren	Ron	Realty Specialist	USDI Bureau of Land Management	Ely District	Ely, NV	Public Response to alternatives
5/7/91	Beaman	Jeff	Information Specialist	Idaho Power Company		Boise, ID	High Country News Information Request
5/8/91	Holloway	Chuck		City of Los Angeles	Department of Water and Power	Los Angeles, CA	WPPP route problems
5/9/91		Receptionist		Air Quality Bureau			Air Quality
5/10/91	Naylor	Mike		Clarke Co. Health Department		Las Vegas, NV	Air Quality
5/13/91	Hendricks	Al	Superintendent	USDI National Park Service	Great Basin National Park	Baker, NV	Requested socioeconimic information
5/14/91	Daboda	Iris	Vice Chair	Paiute Band of the Moapa			Discuss routes across reservation
5/14/91	Wickstrom	Jerry	Environmental Coordinator	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Moapa alternatives
5/20/91	Daboda	Iris	Vice Chair	Moapa Band of the Paiute		Moapa, NV	Meeting about routes
5/24/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Upcoming meetings
5/25/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Managment	Burley District	Burley, ID	Agency preferred route
5/25/91				Banbury Hot Springs			Inquire about recreation facilities
5/25/91				Boise National Forest Service			Gather information on Idaho campgrounds
5/28/91	Hasenoehrl	Pat	SWIP Project Manager	IPCo/LADWP		Boise, ID	Substation sites
5/28/91	Sloan	Sid		USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	SWIP Biologcal Assessment
5/28/91	Wickstrom	Jerry	Environmental Coordinator	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Biological Assessment: need to include other spec.
5/29/91		Martha	Clerk	White Pine County		White Pine, NV	Mining Claim Confirmation
5/30/91	Wickstrom	Jerry	Environmental Coordinator	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Moapa route, Aerojet, schedule
5/31/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Update on issues
6/1/91	Shackley	Lowell	State Air Quality Coordinator	Air Quality Board		Nevada	Air Quality
6/7/91	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Minidoka Relocation Center
6/10/91	Climo	Dr. Thomas	Director of Project Design	Moapa Tribe		Moapa, NV	Introduce SWIP
6/10/91	Collins	Ken	Business Manager	Moapa Band of the Paiutes			Discuss routes on reservation
6/10/91	Culp	Major Toni	Air Space Manager	Nellis AFB		Nellis AFB, NV	Status of agreement on tower heights
6/10/91	Wilcox	Dee	Superintendent	Bureau of Indian Affairs		Cedar City, UT	Open discussion of Moapa alternative
6/18/91	Wickstrom	Jerry		USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Request maps for corridor study
6/19/91	Dailey	Bob		Utah Air Quality Board			Air Quality Information
6/19/91	Dalley	Bob	Permitting	UT Air Quality Board			Air quality in Utah.
6/19/91	Lee	Paula	Environmental Affairs	City of Los Angeles	Department of Water & Power	Los Angeles, CA	Moapa alternatives and Sunrise Mountain
6/19/91	Miller	Dorthy	Climate Data Coordinator	Region Climate Center		Reno, NV	Climate Data
6/20/91	Freed	Bruce	Chief Ranger	National Park Service			Air quality monitoring w/in Great Basin Nat'l Park
6/20/91	O'Leary	Donna	Publications	National Park Service - Air Quality Div.		Denver, CO	To receive air quality documentation.
6/20/91	Simonson	Karl		USDI Bureau of Land Management	Burley District		Discuss agency preferred alternatives
6/20/91	Wagner	Bill	Wilderness Coordinator	Bureau of Land Management		Salt Lake City, UT	Air Quality on BLM
6/20/91	Wagner	Bill	Wilderness Coordinator	USDI Bureau of Land Management		SLC, UT	Air quality on BLM
6/25/91	Rhue	Toby	Recreation Planner	Humboldt National Forest			Air Quality
6/26/91	Climo	Thomas	Director of Project Design	Moapa Band of Paiutes			Status of routes across tribal bands
7/1/91	Holloway	Chuck		City of Los Angeles	Department of Water & Power		Feedback on H-frame mitigation recommendations
7/2/91	Lungstrom	Gary		Nevada Employment Security Department		NV	Update Socioeconomic Data for the DEIS

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
7/2/91	Vanier	David		Utah State Tax Commission		UT	County Assessed Values
7/8/91	Cochran	Mark		Dames & Moore			Biological Assessment Budget
7/8/91	Holloway	Chuck		City of Los Angeles	Department of Water & Power	Los Angeles, CA	H-Frame mitigation on Crosstie
7/9/91	Mann	Mike		Idaho Power Company		Boise, ID	Nevada Power Co. 500kV Harry Allen - McCollough
7/10/91	Simonson	Karl		USDI Bureau of Land Management	Burley District	Burley, ID	BLM Preferred Route Letter
7/11/91	Jensen	Kenneth		Utah Dept. of Employment Security	Labor Marketing Group	UT	Socio Projections
7/11/91	Lusk	Earl		Idaho Property Tax Division		ID	Get assessed values and tax rates
7/18/91	Anastassatos	George		Nevada Employment Department			1990 Population Data
7/18/91	Hice	Janelle		Idaho Department of Employment		Boise, ID	Populations Projections for Idaho
7/18/91	Jensen	Kenneth		Utah Dept. of Employment Security	Labor Marketing Group	UT	Population projections for Juab & Millard
7/18/91	Narol	Maude		State Demographers Office			Projections
7/18/91	Porter	Alan		Idaho Department of Commerce		Boise, ID	Populations Projections for Idaho
7/18/91	Samtose	Dick		Governor's Office		Boise, ID	Populations Projections for Idaho
7/22/91	Simonson	Karl		USDI Bureau of Land Management	Burley District	Burley, ID	Discuss agenda for steering committee
7/24/91	Climo	Thomas	Director of Project Design	Moapa Band of Paiutes			Status of Moapa route through reservation
7/30/91	Climo	Thomas	Director of Project Design	Moapa Band of Paiutes			Set up meeting
7/30/91	Simonson	Karl		USDI Bureau of Land Management	Burley District	Burley, ID	Progress w/Moapa alternatives
8/1/91	Simonson	Karl		USDI Bureau of Land Management	Burley District	Burley, ID	Comment about PDEIS
8/7/91	Atchinson	Don		Nevada State Taxation Department			Get Socioeconomic Information
8/12/91	Lee	Paula		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Mitigation committent letter
8/13/91	Climo	Thomas	Director of Project Design	Moapa Band of the Paiutes			Setup meeting with Moapa
8/15/91	Rosandick	George	Right-of-Way Agent	Idaho Power Company		Boise, ID	Appraisal process for Moapa Lands.
8/15/91	Wickstrom	Jerry		USDI Bureau of Land Management	Las Vegas District		
8/19/91	Long	Kris		USDI Bureau of Land Management	Idaho State Office	Boise, ID	Schedule for printing DEIS
8/21/91	Dondero	Steve		USDI Bureau of Land Management			Discuss location of highway crossing
8/22/91	Shiflet	Larry	Land Appraiser	USDI Bureau of Land Management	Idaho State Office	Boise, ID	Land Exchanges
8/26/91	Lee	Rod		USDI Bureau of Land Management	Richfield District		Request for copy of SWIP tech. report
8/26/91	Simonson	Karl		USDI Bureau of Land Management	Burley District	Burley, ID	Upcoming Moapa Meeting
8/26/91	Wickstrom	Jerry		USDI Bureau of Land Management	Las Vegas District		Moapa Meeting
9/4/91	Culp	Toni	AIr Space Manager				Discuss position on SWIP routes
9/4/91	Wickstrom	Jerry		USDI Bureau of Land Management	Las Vegas District		Potential routes across Moapa Reservation
9/10/91	Long	Kris		USDI Bureau of Land Management	Idaho State Office	Boise, ID	Contact with printer
9/11/91	Holloway	Chuck		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Comments on PDEIS
9/11/91	Simonson	Karl		USDI Bureau of Land Management	Burley District	Burley, ID	Status of Moapa Alternatives
9/20/91	Simonson	Karl		USDI Bureau of Land Management	Burley District	Burley, ID	Forest Service Comments on PDEIS
9/26/91	Hendricks	Al	Superintendent	Great Basin National Park			Comments on PDEIS
9/30/91	Tilzey	Ed		USDI Bureau of Land Management	Nevada State Office		Discuss Moapa Issues
10/3/91	Simonson	Karl		USDI Bureau of Land Management	Burley District	Burley, ID	Discuss Minidoka Relocation Mitigation
10/7/91	Wickstrom	Jerry		USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Moapa alternatives
10/9/91	Sloan	Sid		USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Desert tortoise surveys for Moapa Alternatives
10/11/91	Climo	Thomas	Director of Project Design	Moapa Band of the Paiutes			Response to letter for subcontracts
10/11/91	Simonson	Karl		USDI Bureau of Land Management	Burley District	Burley, ID	Additions to mailing list - BIA
10/15/91	Climo	Thomas	Director of Project Design	Moapa Band of the Paiutes			Discuss routes on reservation

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
10/16/91	Wickstrom	Jerry		USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Comments on Project Update
10/17/91	MacDonald	Ken		Dames & Moore			Discuss tortoise surveys
10/17/91	MacDonald	Ken		Dames & Moore			Discuss tortoise surveys
10/19/91	Sloan	Sid		USDI Bureau of Land Management			Discuss tortoise surveys
10/21/91	Bunker	Mike		USDI Bureau of Land Management	Ely District		Lonliest Highway
10/21/91	Climo	Thomas	Business Manager	Moapa Band of the Paiute			Assistance from tribal council
10/21/91	Climo	Thomas	Director of Project Design	Moapa Band of the Paiutes			Discuss subconsultant services
10/21/91	Hansen	Ferreal		White Pine Chamber of Commerce			Information on the Loneliest Highway
10/21/91	Tilzey	Ed		USDI Bureau of Land Management	Nevada State Office		Desert Tortoise and Moapa routes
10/21/91	Wickstrom	Jerry		USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Desert Tortoise issues
10/23/91	Bracken	Dan		T. Dan Bracken, Inc.			Settlement of out-of-scope/New EMF case
10/23/91	Culp	Tony		Nellis AFB			Letter of agreement between IPCo and Nellis AFB
10/23/91	Forman	Marcia		Bounty & Forman Inc.		Ely, NV	Mining Claim Information
10/23/91	Holloway	Chuck		City of Los Angeles	Department of Water & Power	Los Angeles, CA	Letter of response between LADWP & Hill AFB
10/23/91	Simonson	Karl		USDI Bureau of Land Management	Burley District	Burley, ID	Tortoise surveys/Moapa alternatives
10/24/91	Tilzey	Ed		USDI Bureau of Land Management	Nevada State Office		Moapa Alternatives
10/24/91	Tilzey	Ed		USDI Bureau of Land Management	Nevada State Office		Moapa Alternatives Discussion
10/28/91	Climo	Thomas		Moapa Band of the Paiute			Coordinate subcontract/public meeting
10/30/91	Conference Call						Moapa routes
10/31/91	Wickstrom	Jerry		USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Moapa routes
11/4/91	Climo	Thomas	Director of Project Design	Moapa Band of the Paiutes			Letter proposal for subconsultant
11/5/91	Holloway	Chuck		City of Los Angeles	Department of Water & Power	Los Angeles, CA	SWIP Microwave facilities
11/5/91	Holloway	Chuck		City of Los Angeles	Department of Water & Power	Los Angeles, CA	SWIP Microwave facilities
11/5/91	Simonson	Karl		USDI Bureau of Land Management	Burley District	Burley, ID	Release of DEIS
11/7/91	Climo	Thomas	Director of Project Design	Moapa Band of the Paiutes			Follow up for meeting date and contract
11/12/91	Brown	Dave		US Fish & Wildlife Service			Existance of Moapa Valley National Refuge
11/12/91	Climo	Thomas	Director of Project Design	Moapa Band of the Paiutes			Status of project contract/hire
11/12/91	employee			Federal Emergency Management Agency			Ordered Flood Boundary Maps
11/12/91	Hasenoehrl	Pat		Idaho Power Company		Boise, ID	Additional microwave sites
11/12/91	Lato	Leon		USDI Soil Conservation Service	Las Vegas Office	Las Vegas, NV	Soil Survey information
11/12/91	Skaggs	Forrest		Idaho Power Company		Boise, ID	Additional microwave sites need by LADWP
11/12/91		Becky		State of Nevada	Bureau of Mines & Geology		Mineral industries information
11/12/91			Geologist/Archaeologist	USDI Bureau of Land Management	Clark County District	Las Vegas, NV	Paleontology Study
11/12/91		Gary		USDI Soil Conservation Service			Soil survey information
11/14/91	Meyers	Calvin		Moapa Band of the Paiute			Moapa - Project Control
11/14/91	Vignes	Debra		Blaine Co. Planning Department			Condition Use Permit Requirements
11/16/91	Holloway	Chuck		City of Los Angeles	Department of Water & Power	Los Angeles, CA	SWIP Microwave system
11/17/91	Reagan	Jerry	Planning Director	Millard County	Planning & Zoning	Delta, UT	Status on Proposed Corridors
12/2/91	Simonson	Karl		USDI Bureau of Land Management	Burley District		Progress on SWIP
12/2/91	Skaggs	Forrest		Idaho Power Company		Boise, ID	Additional microwave sites needed
12/11/91	Coalati	Sally		Nevada Power Company			Location of existing transmission lines
12/11/91	Fowler	Brandon	Engineer	Nevada Power Company	Overton Power District		Location of existing transmission lines
12/18/91	Barmore	Russel		USDI Soil Conservation District	Las Vegas Field Office	Las Vegas, NV	Soil in Muddy Creek Area

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
1/2/92	Wickstrom	Jerry		USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Confirm Moapa Inventory Review Meeting
1/3/92	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Addition to Mailing List
1/3/92	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Managment	Burley District	Burley, ID	Pinch point cross sections
1/6/92	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Printing of EIS
1/7/92	Rolf	Stanton	Archaeologist	USDI Bureau of Land Management	Las Vegas District	Las Vegas, NV	Paleological information
1/8/92	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Request to send newsletters
1/10/92	Peugh	Butch		USDI Bureau of Land Management	Idaho State Office	Boise, ID	Consitency Review
1/10/92	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss Meeting with Las Vegas District
1/14/92	Wickstrom	Jerry		USDI Bureau of Land Management	Las Vegas Distri ct		Discuss upcoming RMP
1/15/92	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Coordination with Stateline RMP
1/15/92	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Coordination with Stateline RMP
1/16/92	Wickstrom	Jerry		USDI Bureau of Land Management	Las Vegas Distri ct		Coordination with Stateline RMP
1/22/92	Meyers	Calvin		Moapa Band of Paiute		Moapa, NV	Inventory Review Meeting
1/30/92	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Steering Committee Meeting
2/5/92	Rolf	Stan	District Archaeologist	USDI Bureau of Land Management	Las Vegas Distri ct		Review of GIS assessment data/maps
2/6/92	Simonson	Karl	SWIP Project Coordinator	USDI Bureau of Land Management	Burley District	Burley, ID	Pahranagat Wash
2/9/92	Hasenoehrl	Pat	Project Coordinator	Idaho Power Company		Boise, ID	Discuss system operation
2/9/92	Wickstrom	Jerry		USDI Bureau of Land Management	Las Vegas Distri ct		SWIP EIS Maps
2/14/92	Wickstrom	Jerry		USDI Bureau of Land Management	Las Vegas Distri ct		Discuss the "equation"
2/14/92	Wickstrom	Jerry		USDI Bureau of Land Management	Las Vegas Distri ct		Discuss Arrow Canyon
2/20/92	Sturm	Donna		Nevada Department of Administration			Information Request
2/24/92	Long	Kris		USDI Bureau of Land Management	Idaho State Office		Printing contracting policy change
3/4/92	Wickstrom	Jerry		USDI Bureau of Land Management	Las Vegas Distri ct		Review of PDEIS
3/5/92	Ferrell	Yvonne		Follow-up call for SWIP response sheet			Follow-up call for SWIP response sheet
3/5/92	Quinn	Catherine		Utah Wildlife Resources			Follow-up call on newsletter response (11/91)
3/5/92	Simmons	Terry		Attorney At Law			Follow-up call on response for newsletter
3/9/92	Long	Kris		BLM Idaho State Office		Boise, ID	Questions about printing EIS
3/10/92	Simonson	Karl		Bureau of Land Management	Burley District		Comment on PDEIS
3/18/92	Dondero	Steve		Bureau of Land Management	Elko District		Contact crossing simulation
3/20/92	Long	Kris		Bureau of Land Management	Idaho State Office	Boise, ID	Use of Government Frank for mailing
4/1/92	Simonson	Karl		Bureau of Land Management	Burley District		Final review of camera ready FEIS
4/16/92	Peugh	Butch		Bureau of Land Management	Idaho State Office	Boise, ID	Discuss Distribution of EIS and Tech. Doc.
5/4/92	Hendricks	Al		GBNP			Final comments on the DEIS
	Barker	Pat	State Archaeologist	USDI Bureau of Land Management		Reno, NV	SWIP draft PA
	Bath	Tom		Bath Lumber			Member/board of IPP, White Pine, Mt Wheeler Utilit
	Brown	Harold	Realty Specialist	USDI Bureau of Land Management	Shoshone District	Shoshone, ID	Data request
	Clifford	Glen				Twin Falls, ID	Location of gas lines
	Fairman	Gary	Lawyer	White Pine County	Parks Masterplan	Ely, NV	County Parks
	Goostry	John	Aviation Safety Inspector	Federal Aviation Administration			Air Traffic Corridors
	Goostry	John	Aviation Safety Inspector	Federal Aviation Administration			Air Traffic Corridors
	Hasenoehrl	Pat	SWIP Project Manager	Idaho Power Company		Boise, ID	Discuss meeting set for Oct 11, 1989
	Howald	Kevin		Earth Satellite Corporation		Rockville, MD	TM & Spot Follow-up
	Jobson	Brian		Sacramento Municipal Utilities District			To add to mailing list

DATE	LNAME	FNAME	TITLE	AGENCY	DEPT./ORG.	LOCATION	PURPOSE OF CONTACT
	Laudeman	Pete	Archaeologist	USDI Bureau of Land Management	Burley District	Burley, ID	Discuss drafting PMOA for SWIP compliance
	Lister	Ray		USDI Bureau of Land Management	Elko District	Elko, NV	SWIP Inventory Report
	Melquist	Wayne		Idaho Department of Fish and Game			Sensitive species update in Idaho
	Miller	Jerry		State of Utah	Division of Parks & Recreation	SLC, UT	
	Miller	Susan	Archaeologist	State of Utah	Department of Transportation		Compliance for Cultural Resources
	Miller	Jerry		State of Utah--Dept of NR & Energy	Division of Parks & Recreation	SLC, UT	General information
	Podborny	Mike		Nevada Department of Wildlife		Eureka	SWIP southe Addition
	Reeder	John	President	Reeder Air Service			Airstrip at "Dicky Bird Lane"
	Sorenson	Chris	District Supervisor			Boise, ID	Gas pipeline line crossing agreement
	Steams	Steve	Archaeologist	State of Nevada	Department of Transportation		Records Search
	Suminski	Rita		USDA Forest Service	Ely Ranger District	Ely, NV	Review of SWIP technical report
	Thornburgh	John	Realty Specialist	USDI Bureau of Land Management	Jarbridge RA	Boise, ID	Sikes Act Wildlife Tracts - Dixie Birdlane

APPENDIX B

STEERING COMMITTEE MEETING NOTES

NOTES FROM THE FIRST STEERING COMMITTEE MEETING
February 6 and 7, 1989
Utah State Office, Bureau of Land Management

Butch Peugh (BLM - Idaho) opened the meeting with introductions. He also announced that Karl Simonson of the Burley District will take the lead role for the BLM.

Jan Packwood of Idaho Power Company (IPCo) opened the meeting with an introduction of the project. He explained who the participants of the project will be, the purpose and need for the project, and how project construction and operation is expected to occur.

Dave Myers (IPCo) explained how their consultant selection process selected Dames & Moore. There were 21 Statements of Qualifications received, and four firms interviewed. Dames & Moore was selected, and later approved by BLM.

Garlyn Bergdale explained that Dames & Moore has a computerized environmental data base for the region. He also described the background of the project team.

Jim Jensen of Dames & Moore described the environmental planning process. He reviewed the resources within the database, and described engineering constraints that will be useful in calculating comparative project costs. He described that the data in Dames & Moore's Geographic Information Management System (GIMS) comes from:

- recent satellite imagery
- existing agency plans and maps, and private data sources
- digital terrain mapping

He further explained how GIMS works.

He reviewed environmental data used in selection of alternative corridors on the inventory maps:

- Earth Resources
- Cultural Resources
- Land Jurisdiction
- Visual Resources
- Land Use
- Biological Resources
- Parks, Preservation and Recreation
- Agency Corridors - Planning and Designated

He explained how the sensitivity analysis was done by the Dames & Moore planning team. He reviewed the Sensitivity maps, the Construction Limitations map, the Existing Utilities map, and the Environmental Composite map.

The group then reviewed the alternative corridors maps that Dames & Moore had prepared. The map had both agency corridors and corridors identified by the consultant through their environmental planning process.

Sierra Pacific's (SPC) application for right-of-way was discussed. In IPCo's initial discussions with SPC on this line, SPC insisted on owning the line in Nevada, or 51% of the total ownership of the line. IPCo thinks it is unrealistic for SPC, a single utility, to own a middle section of the line. IPCo will be negotiating again with SPC soon. If an agreement can't be reached, IPCo intends to approach the State Energy Commission.

Los Angeles Department of Water and Power (LADWP) has filed an application with BLM in Nevada for right-of-way for a 500kV line from McCullough substation to the Steptoe Gondor substation. The project is intended to backup the Intermountain Power Project (IPP) existing system in a 4-phased development. BLM intends to suspend the application because the corridor crosses the Sunrise Mountain ISA (Instant Study Area). The question was raised whether the two projects should be considered similar or separate actions. Both may apply for right-of-way from Delta to IPP. IPCo feels that it is mutually beneficial to build only one line in this location. It was suggested by several committee members that the IPCo and LADWP applications are overlapping, IPCo intends to amend their application, and scale back their proposal.

A representative from Hill Air Force Base met with IPCo in late January. Hill Air Force Base doesn't want the Gondor to IPP section built. But if it is, they would like to see the towers under 100 feet tall. BLM does not feel that the military has any authority over this air space, or to restrict land uses from occurring.

Dames & Moore explained why some of the alternative corridors identified in the regional study are being recommended for elimination. The eastern corridors through Salt Lake City are recommended for elimination because of the extensive land use and visual impacts. The group agreed that there are too many constraints. BLM will provide backup and rationale for eliminating corridors along I-80 mostly because of concern for visual resources.

BLM asked about the microwave sites. General locations will be identified before the scoping meetings. IPCo will use the existing microwave system in Utah. South of Valmy requires new sites.

The group discussed meetings with county commissioners prior to scoping. The group agreed that this would be a good idea.

Ed Tilzey (BLM - Nevada) recommended giving presentations to the governor's clearing houses. BLM will get schedules for the meetings and Jim Jensen will get them set up. Counties in the study corridors are:

- Elko County, NV
- White Pine County, NV
- Millard County, UT
- Jerome County, ID
- Twin Falls County, ID
- Cassia County, ID

Butch Peugh feels that a project of this scope will require an EIS. Plan amendment needed if proposal is outside of designated corridors. He added that a schedule for a plan amendment is different than for an EIS. The review periods are extended, and some of the criteria are different:

- Issue identification done in scoping
- Notice Of Intent can cover both EIS and plan amendment
- Governor's consistency review is 60 days
- Draft EIS/Plan Amendment review is 90 days

Garlyn Bergdale (D& M) pointed out that if BLM corridors are the only ones used in the Elko District that only one routing alternative would go through the Steptoe Valley. He suggested that the corridor near the military lands on the Utah border could be reconsidered. It had previously been recommended for elimination because of conflicts with a military restricted air space.

The Plan Amendment will be done for specific plans and elements of:

- Twin Falls MFP/A
- Wells RMP/A
- Egan RMP/?
- Schell MFP/A
- Warm Springs RMP/A
- House Range RMP/A
- Humboldt National Forest LRMP/A?

Ed Tilzey will prepare a brief description of military air-space restriction.

Garlyn Bergdale of Dames & Moore continued to review the alternative corridors, including those that had been considered for elimination earlier in the meeting (alternatives farthest west and farthest south, east of Gondor and along I-80).

Dames & Moore will revise corridor map, and send a copy to BLM prior to scoping (February 17). Ed Tilzey will get corridor information to Jim Jensen. Karl Simonson agreed to send maps on Raft River 138kV line to Jim this week.

IPCo explained that the location for the substation at IPP is still unknown. Dames & Moore will assist IPCo with the siting studies. Locations will be determined in approximately 60 days.

Scoping Meetings will be held in:

- Twin Falls (Karl Simonson will set up - 100 people expected) - March 27
- Wells (Dave Vandenberg expects 60 to 100 people) - March 28
- Ely (50 to 100 people) - March 29
- Delta (Rod Lee expects about 50 people) - March 30

Dames & Moore will provide presentation to BLM districts during the day before each evening meeting. Evening meetings will last from 7 to 9pm. The presentation will be about 35-45 minutes, followed by 30 minutes of Questions & Answers. We would then break up into work groups if appropriate. Fact Sheets and comment forms will be available. Karl Simonson will need to know the exact locations, etc. by 2/24 to submit the Federal Register notice by 2/27 for the 3/3 edition. Dames & Moore will prepare and distribute a Fact Sheet and news releases to radio and TV stations including:

- Times News
- Idaho Press
- Statesman (daily in Boise)
- Salt Lake Tribune
- Deseret News (SLC)
- Richfield Reaper (weekly)
- Box Elder Journal (biweekly?)
- Tremonton Leader (weekly)
- Elko Free Press (daily)
- Elko Independent (weekly)
- Wells Progress (weekly)
- Ely Daily Times
- High Desert Advocate (daily in Wendover)
- Reno Gazette Journal
- Las Vegas papers (?)

Mailing List - BLM districts will submit mailing list to Karl Simonson by 2/24. Karl will submit them to Dames & Moore ASAP. Dames & Moore will maintain the project mailing list on computer.

Butch Peugh handed out the "EIS Format and Content" as the basic outline for the document.

Garlyn Bergdale reviewed the schedule with the group and emphasized the importance of BLM/IPCo/Dames & Moore coordination, particularly at key points during the project. He recommended setting up a steering committee or work group for close coordination. This group may have members from other agencies, and possibly the states or counties.

Ed Tilzey suggested the SHPOs and FWS be contacted ASAP. Review periods were discussed. BLM would like 2 weeks for review plus 3 days on either end for mailing. It was suggested that the project schedules for other projects could interfere with this one (e.g., Thousand Springs).

Copies for internal review:

• Idaho State Office	2
• Burley District	2
• Shoshone District	2
• Nevada State Office	2
• Elko District	3
• Ely District	4
• Utah State Office	2
• Salt Lake District	1
• Richfield District	2
• Bureau of Reclamation in Boise	1
• Bureau of Reclamation in Burley	2
• Humboldt National Forest S.O.	2
• Elko - Ely Ranger District	2
TOTAL COPIES	27

Ed Tilzey reminded D&M/IPCo about allowing sufficient time for the section 106 Consultation for cultural resources. BLM will draft the Memorandum of Understanding (MOU) among BLM SHPOs, and the Advisory Council prior to cultural resources survey.

He would also like to see generic mitigation as part of the project description so that no impact levels are shown and mitigated in the document. Dames & Moore explained that generic mitigation is part of the project description, and is described separately to help inform the public and to give IPCo credit for their efforts.

BLM explained that cumulative impacts must be discussed in the document.

Cultural resource field crews must be licensed in each state through the BLM Antiquities Permits.

There is no resolution to the issue of who will sign the Record of Decision for BLM. Butch Peugh was told in the Washington Office that only Idaho's signature was needed. Other states believe that all states must sign.

BLM would like to see additional items added to the schedule:

- land report preparation
- grant issuance
- notice to proceed

Key times for group meetings will be:

- after scoping meetings to finalize alternatives
- following EIS inventory
- during preliminary impact assessment
- during route selection

Comments on Draft Preparation Plan - Page 4, paragraph 3 - BLM will approve preparation plan, not just IPCo. It should say "BLM will direct preparation of the environmental document and quality control."

Review of action items:

1. Dames & Moore will send revised corridor maps to BLM & FS on 2/17
2. BLM will finalize scoping meetings and have info to Karl Simonson by 2/24
3. BLM will get info on meeting dates for county commissioners
4. BLM mailing lists to Karl Simonson by 2/24
5. Karl to send Federal Register notice on 2/27
6. Ed Tilzey will send Karl description of military restricted areas by 2/24
7. IPCo will have microwave sites by scoping
8. BLM will develop MOU with SHPOs and Advisory Council following scoping meetings

NOTES FROM THE SECOND SWIP STEERING COMMITTEE MEETING

Salt Lake City, Utah
April 26, 1989

Karl Simonson and Garlyn Bergdale opened the meeting. Jim Jensen began by discussing some of the highlights of the public scoping meetings and some of the responses and letters received on the first fact sheet. He will be sending a package of all of these summaries to Karl for distribution to BLM and FS.

The next item discussed was the status of the corridors. The steering group discussed the Bureau of Reclamation property near Hunt, Idaho and the proposed historic park site. The site was an internment camp for Japanese Americans during World War II, and is on the National Register of Historic Places. The Idaho Centennial Commission is also involved, and has committed funds to construction of the park site.

The alternative in the Hagerman area in Idaho was discussed next. There is about a 3 to 4 mile area that the engineers and Dames & Moore will have to look at more carefully to determine how to get an alternative through the heavily populated and dense agricultural area.

The alternative passing Contact, Nevada is a concern to the BLM Elko District. Specifically they are concerned about visual impacts to the residents. They will be looking at this area on the ground in the next couple of weeks. IPCo and Dames & Moore will also need to spend some more time refining the alternatives through this area with BLM.

The alternative along the Raft River 138kV line is thought to be in a designated utility corridor through Utah. John thought it should be alright to eliminate this corridor as long as it can be well-documented. This corridor is nearly 100 miles longer than any of the other alternatives, and would cross through some biologically sensitive areas in Idaho and Utah. Documentation of this will be in the regional study report (scoping document).

The O'Neil Basin alternative (farthest western route near the Nevada-Idaho border) through Nevada should be studied, according to Dave Vandenberg, BLM. This route north of the border should be eliminated according to the Boise District of BLM. They are working on documentation for this. Ed Tilzey, BLM, explained that if the Nevada portion of this alternative remains, the crossing from the Salmon Falls Creek Route or the existing 345kV line would have to be north of the border because of difficult terrain and canyon crossing in Nevada. Dave and John will look at this alternative on the ground to see if it is feasible. Jim Jensen will coordinate with them.

There was some discussion on the Thousand Springs Power project. The proponents are not intending to address transmission in their EIS. The group agreed that this does not make sense. John will be asking them to address transmission.

The alternatives around the Great Basin National Park were discussed. Dames & Moore and IPCo have already met with them to receive some initial input on the alternatives. They explained that more alternatives studied was better. If they had to make a decision today without any backup information, they would prefer the existing 230kV route north of the park. They wanted us to reconsider the diagonal route well north of the park that had

previously been dropped. This is one of the alternatives that had been dropped because of system concerns with both IPCo and Los Angeles Department of Water & Power. They believed that the Baker route on the east side of the park is the worst, and would like it dropped. Most of the views from the park are to the east. The steering committee decided that the Baker route should be dropped.

The Highway 50 alternative east to King's Canyon was discussed. The NPS doesn't really like this one either, since much, if not most, of their visitors approach the park along this route. Also, King's Canyon would be very difficult to build a line through. There are WSAs on both sides as well. It was agreed that this alternative could be eliminated.

The military ECTC EIS was discussed. Rod Lee (BLM) explained that BLM is a cooperating agency and that Roy Edmonds is the lead for the Richfield District. Dames & Moore will meet with Roy to discuss the ECTC project. Rod will set up.

The preparation plan was examined and discussed. There are still a couple of things that need to be revised, according to BLM. The group also reviewed the schedule and talked about some of the Phase III, post-ROD activities.

It was agreed that BLM will be sent draft copies of future newsletters two weeks prior to distribution.

The group discussed the sage grouse issue in the Elko District. There is some concern by Dames & Moore that detailed ground studies may not be needed for the EIS. John's concern is that eagles would have an unfair advantage because they can perch on towers and "pick off" the sage grouse. This is considered a "big issue" with Nevada Department of Wildlife. It was agreed that we should have a meeting between Nevada DOW, BLM (Sid Eaton), and Dames & Moore to determine a strategy for this issue. John acknowledged that the kind of intensive field studies being requested on the project so far are beyond the scope of a normal EIS process.

Another potential wildlife issue discussed was the ferruginous hawk. Mike Perkins, the Ely District biologist, should be contacted.

Wild horses and burros in Utah will also be an issue.

The California Cutoff Trail should be added to the mailing list. We will need to get the group's address from BLM Elko District. This is a big issue on Thousand Springs Power Project.

Native American issues were also discussed.

For cultural resources the programmatic MOA was discussed. Ed Tilzey warned that this should be started as soon as possible to avoid delays later on. This can be a lengthy process. Will need to involve the three state SHPO offices and BLM in the MOA.

Dames & Moore committed to getting a map of the potential microwave sites to BLM as soon as possible. They will also verify the location of the existing microwave sites between Ely and Delta with LADWP. It is not anticipated that any new communication facilities will be needed on that section of the line.

The FS is concerned about the substation locations in the Ely area. Dames & Moore will supply a map of the alternative locations to Toby Rhue, Forest Service, as soon as possible.

Rod Lee, BLM, explained that he never got a copy of the Plan of Development. Dames & Moore will send one to him.

The BLM land report and scheduling was discussed. There will be no permit required for IPCo to do preliminary centerline surveying prior to the ROD. It is considered a "casual use." Stipulations will be in the Plan of Development as well as in the Notice to Proceed. They will be district specific.

NOTES FROM THE THIRD SWIP STEERING COMMITTEE MEETING
Salt Lake City, Utah
August 23, 1989

Karl Simonson asked BLM members to think about:

- how will preparation of Land Report be handled
- how will construction be monitored
  Person/Project?
  Person/State?

Two or three ideas were passed around for monitoring:

- ADP to track expenditures
- original of newsletters

Garlyn Bergdale discussed meeting with Hill AFB about one month ago. Displayed Maps and discussed 100 foot ceiling within MOAs. Barry Webster felt confident that they could compromise to allow 13 miles of 100 foot structures. Looking to find out who's in charge--asked Barry to contact Karl Simonson with this information. Karl has not received anything, but will call him. Karl feels that there is an agreement in principal to work with Hill AFB on height of structures.

Toby Rhue of the FS raised question about how much authority military really has. He hopes to have additional information in two weeks.

Scoping Report comments on the Regional Environmental Study - Al Hendricks didn't receive Report. He needs two (given one at meeting).

Garlyn talked about sending out Addendum of the Regional Study Report because of the comments received from BLM. Garlyn asked for comments to be sent to Jim through Karl, he will then send out addendum of reports.

The scoping meeting summary document was also discussed. Al Hendricks, Ron Sjogren, and Greg Kimble want copies. Garlyn commented that this document would be a life-saver if the project were ever taken to court. There was additional discussion on the importance of documentation.

Dave Meyers asked about the technical reports relationship to what will be in the EIS.

Jim Jensen did a slide presentation to bring all of the members up to date, including the new NPS representatives:

- Description
- Purpose and Need
- Project Team
- Environmental Studies (Explained each part of these studies, how they were done, and who and what were used)

- Issues to be addressed
  -Maps
  -Land Jurisdiction
  -Cultural Resource
  -Land Use (military)
  -Recreation Sensitivity
  -Biological Resources
  -Study Area Physiography
  -Biological Sensitivity
  -Land Use Sensitivity
  -Visual-Resource Sensitivity
  -Cultural Resource Sensitivity
- Environmental Composite
- Construction Difficulty
  -Existing Corridors
- Alternative Corridors
- Final Alternative
- Public Involvement
- Nov., Dec. to have Public Planning Workshops
- Milestone Dates: Proposed dates for each step up to Record of Decision
- Agency and Public Input
- Corridor Studies and EIS Preparation
- Military area slides
- Tule Valley
- Tower Schematic
- View Point from Highway 6/50
- View of Tower Placement
- View Point of Highway 6/50 showing more
- South end of Tule Valley view of Tower Placement
- Showing tower visual as an aircraft would see it on approach
- Example of Soil Erosion Hazard Map

Ronald Jorgensen "Will we know if its feasible?" Al Hendricks (NPS) - How is LA involved? Darwin Snell (BLM) asked about how detailed each study would be on each corridor.

Al Hendricks asked what is being done with excluded areas, and why are they (military) excluded? Answer is that the Military has legal rights to air space as specified in the agreement. The excluded areas have a 100 foot ceiling according to Ed Tilzey (BLM - Nevada State Office) and Karl Simonson (BLM).

Dave Meyers explained that IPCo has tried to work with the USAF. Went from 70 miles to 13 miles to keep towers under 100 feet.

Al Hendricks feels that at some point someone needs to take on the military.

Turned over to Ed Tilzey

- TAC headquarters say they have no hold on MOA, but a base will of course tighten up.
- Some restricted areas don't go to surface, have to look at floor of restricted area.

Larry Sip explained that the Military says the ceiling is 50 feet.

Darwin Snell discussed the Military proposal out as well as Idaho Power, so bargaining power is there.

Discussed when and where to have the next meeting.

Reno - October
SLC - December
Alternate between Reno and Salt Lake City

Ronald Sjogren - Where does Dames & Moore get soils data? Contact Charles Condrat in Salt Lake City office of Dames & Moore.

Jim Jensen (D&M) discussed inventory and impact assessment process. Get all of the data digitized into GIS System - in progress. Cultural Data is already into the system - checking remaining. The other resources are coming along.

Characterize impacts - Impact descriptions are being developed. Dames & Moore resource investigators are developing impact models. All models will be put in GIS System and data reports will be generated. Once this is complete the resource investigators will see what mitigations will be effective. Models will be run again to get residual impacts (after mitigation).

Route selection will occur once all of the impacts have been assessed, and a mitigation plan has been formulated.

Al Hendricks - 1 copy - Scoping Report Comments
Al Hendricks, Ron Sjogren, Greg Kimble - Copy of summary scoping document
Rod Lee - Copies of Military Slides

Call Ed Tilzey on Friday about floor of military restriction area. 100 feet (answered in meeting)

Sage Grouse - BLM will give information to Jim Jensen to use in EIS.

Public Involvement - Karl wants an updated mailing list by state.

Hagerman Fossil Bed National Monument - Met with David Pugh 1 1/2 weeks ago. Discussed visitor center and alternative sites.

Viewshed mapping will be done to determine visual effects from visitors center.

Cutoff Route - routes in Elko County. We have added alternative 8c and 29c. Also discussed 22e and 22d. Problems with distribution list for maps were addressed. Some are not receiving everything.

David Vandenberg (BLM) discussed the proposed Rocky Peak substation north to tie in with Thousand Springs Power Project. Pat Hasenoehrl (IPCo) does not believe that Sierra is considering this location any further.

Mike Mann (IPCo) - substations and line have magnetic fields.

Al Hendricks asked if Thousand Springs would be able to tie in? IPCo is unable to answer at this time but said that a series of compensation stations would be needed. It look quite similar to a substation (visual impact consideration).

Ed Tilzey - decision to integrate with Thousand Springs or not needs to be made.Wants an alternative discussed in the document so it's on the books.

Garlyn Bergdale (D&M) asked for location of Rocky Power Plant to be sent to Jim Jensen (from David J. Vandenberg).

Karl Simonson: How is Dames & Moore handling not knowing exactly where substations are going to be?

Schedule and Scope of Work - things have got to be tied down because it's affecting the schedule.

Al Hendricks - Talked about NPS concerns on cut-off Route. Asked about floors in Military Operating Areas, are they known for sure? Ed Tilzey replied that it is 100 feet.

Garlyn Bergdale asked about restricted areas. Ed Tilzey replied that the Air Force would not be able to use MOA's if structures go over 100 feet. What would military do if you came across restricted area?

A: Probably will never get it.

Garlyn Bergdale discussed possible alternate route going through restricted area that is not the military reservation. Ed Tilzey will double check on floors.

Bureau of Land Management - Cutoff route crosses a lot of BLM land. Not a corridor out there. BLM will make final decision - costs must be feasible, and all other impacts must be taken into consideration. BLM must make decision if they want Dames & Moore to approach new corridor.

Idaho Power - Dave Meyers - Height of towers coming down to 100 feet is going to add considerable cost to project.

Ed Tilzey suggested going to Colonel Bailey in LA who works with FAA about tower height.

Garlyn Bergdale questioned all parties about concerns. Asked for comments.

Idaho Power is OK. Karl Simonson - all routes are agreeable. Boise District does have some concerns.

Karl will get back with Hill AFB. Dames & Moore will make recommendation to Karl once all information is in. Will get Rocky Point information ASAP. Should have it going in a couple of weeks.

Karl Simonson - Boise will probably work with tower placement.

Jim Jensen discussed the Hagerman area again - most sites are off of NPS property. Will have to work with group that owns it.

Garlyn Bergdale discussed the schedule. With the cutoff route and problems with the military, we expect to be about 4-6 weeks off of schedule - would like to add 6 weeks. Set back from January to February for Impact Assessment. Stay on same schedule as far as all other aspects.

If revision of schedule is necessary, Jim Jensen will get it out to everyone. Garlyn suggested that the whole schedule be moved back 6 weeks.

Wondering about getting more people involved in Fillmore to look at Cutoff and all other alternatives.

Impact Assessment and Mitigation - Developing a list of mitigation measures that can be applied to help reduce the impact. Will get information out to everyone for next meeting.

Meet in October - Go through mitigation impact assessment data at that time. Go through philosophy of mitigation plan. Send it out and generic mitigation measures for October.

Dames & Moore will do inventory report at end of inventory - draft available at October meeting.

October meeting in Reno 3rd week of October - possibly the 18th or 19th.

Action Items

1. Military slides to Rod Lee
2. Look at Fatal Flaws assessment through Restricted Area
3. Ed Tilzey will look at proposed changes to MOA floors
4. Go over mailing list, be sure everyone is on it and proper attention is being paid to it.
5. Public mailing list sorted by State to Karl Simonson.
6. Send Copy of Scoping Report Comments to Al Hendricks.
7. Send copy of Documentation of Comments to Al Hendricks (done), Ronald Sjogren, and Greg Kimble.
8. Send Bureau of Land Management copy of 1:500,000 scale maps.

ATTENDANCE LIST
THIRD SWIP STEERING COMMITTEE MEETING
Salt Lake City, Utah
August 23, 1989

NAME	COMPANY OR AGENCY	PHONE #
1. Gregory Kimble	L.A.D.W.P.	213-481-3635
2. Ronald Sjogren	BLM-Ely	702-289-4865
3. David Vandenberg	BLM-Elko	702-738-4071
4. Gary Bowers	BLM-Elko	702-738-4071
5. Darwin Snell	BLM-USO	801-539-4102
6. Toby Rhue	FS-Ely	702-289-3031
7. Rod Lee	BLM-Richfield	801-896-8221
8. Larry Sip	BLM-Fillmore	801-743-6811
9. Karl Simonson	BLM-Burley	208-678-5514
10. Al Hendricks	NPS-Great Basin NP	702-234-7331
11. Ron Replogle	NPS-West. Reg. Office	415-556-5750
12. Ed Tilzey	BLM-Reno	702-328-6288
13. Jim Jensen	Dames & Moore	208-344-6140
14. Garlyn Bergdale	Dames & Moore	602-371-1110
15. Pat Hasenoehrl	Idaho Power	208-383-2746
16. Mike Mann	Idaho Power	208-383-2770
17. Dave Meyers	Idaho Power	208-383-2728

NOTES FROM THE FOURTH SWIP STEERING COMMITTEE MEETING

Salt Lake City, Utah
November 7, 1989

Status of National Park Service as a Cooperating Agency

Al Hendricks of Great Basin National Park stated that NPS and BLM have a generic cooperative agreement on the national level.

Garlyn Bergdale (D&M) asked why a project specific agreement was not possible.

Al Hendricks responded that only the NPS director had the authority to sign such an agreement.

Karl Simonson (BLM lead) said that a memorandum of understanding (MOU) has been submitted to the BLM state office, but he thinks it may need to be more general to get it signed.

Minidoka Relocation Center

Jim Jensen (D&M) discussed the upcoming meeting scheduled with the Idaho SHPO.

Pat Hasenoehrl (IPCo) added that rather than relocating some local distribution lines in the area to mitigate visual impacts, IPCo believes that the Japanese-American Citizens League would benefit more if this money were spent as a contribution.

Delta-Steptoe Direct Route

Jim Jensen discussed the results of an initial environmental feasibility study and presented mapping that showed the preliminary centerline location. Jim requested concurrence of the committee to further study this alternative.

Larry Sip (BLM - Utah) stated that a utility corridor exists in the vicinity of this alternative.

Rod Lee added that he had no problem with studying this alternative, but felt that it would likely be eliminated later in the process.

Ron Sjogren (BLM - Ely District) stated that his area manager had some problems with the Cutoff route that would apply also to this new alternative.

Pat Hasenoehrl (IPCo) and Garlyn Bergdale (D&M) discussed the various potential substation sites and how these sites affect system planning and the alternative routes. They also mentioned some assumptions regarding possible routes and how loops may or may not be needed to insure interconnectivity.

Ed Tilzey (BLM - Neveda) stated that there is an agency anomaly regarding the White Pine Power Project (WPPP) corridors. Though there is an EIS and Record of Decision designating some utility corridors, they are not reflected in the Resource Management Plans in the area.

Garlyn asked if the corridors designated for WPPP would still be valid if the power plant were never built.

Ed Tilzey responded that he believed the WPPP corridors would likely still be available.

Conflicts with Hill AFB operations

Larry Sip (BLM - Utah) stated that based on the mapping presented, he believed that the Delta-Steptoe Direct alternative passes through an area identified as a ECTC target area in the vicinity of Sand Pass. Rod Lee (BLM) and Larry Sip raised an issue of the military's use of "chaf" which started a general discussion of possible environmental effects including impacts on wildlife, powerlines, and visual resources. Chaf is a cannister containing numerous small metallic filaments that explodes in the air when dropped by aircraft creating a "cloud" that confuses radar systems).

Cooper Canyon

Toby Rhue (Humboldt NF) addressed the committee with the areas of concern on National Forest lands. Toby discussed the situation with existing access roads in the canyon. A number of roads should have been closed as stipulated by previous EA's and EIS's for earlier projects. So far, none of these roads have been closed

Toby went on to emphasize his concerns about the effects of access roads on the large elk herd stating that two factors seem to limit the herd:

- road density
- use volume on these roads. Toby continued by listing other concerns including erosion, safety hazards, and the liability of the Forest Service

Greg Kimble (LADWP) responded to some of Toby's comments - upgrades and repairs to existing access roads along the IPA line would be handled as project level modifications under previous requirements. He also mentioned that there are numerous mining roads in the area that complicate the access road network. He added that other work on roads would be included as mitigation under SWIP.

Toby responded that the mining access roads are covered by performance bonds to ensure closure and restoration of these roads.

Jim Jensen requested direction from the FS on what will be done as part of previous projects and what will be expected for SWIP. Jim requested this information by January 1990

Revised Project Schedule

Jim Jensen distributed copies of the revised project schedule and discussed changes and additions

Project Inventory Update

Jim Jensen presented a series of GIS data plots and briefly explained some the data theme categories and discussed how these plots were generated from the "knitting" together of the 1:100,000 modules. Jim continued with the presentation of the satellite imagery, explaining how the False Color Composite was created from the reflectance of seven light bands that are recorded digitally. He further explained how this data was then classified to come up with land cover mapping. Jim closed the inventory update by showing a video summary assembled from field videotapes.

Impact Assessment/Mitigation Planning

Jim Jensen briefly reviewed the project background and presented slides that illustrated the planning process. He discussed in detail impact assessment/mitigation planning with flow diagrams and illustrations.

Garlyn Bergdale (D&M) added that the agencies would be involved in the process of finalizing impact assessment models and the development of mitigation measures.

Garlyn suggested that Jim Jensen meet with agency managers and their resource people to generally discuss impact assessment and mitigation before D&M principal investigators meet with their agency counterparts to review inventories and preliminary impact assessment results.

Other Topics

Al Hendricks (NPS) opened a discussion on cumulative impacts after asking if a maximum capacity had been established for any designated or planning utility corridors. He asked whether any studies have been done to establish a "saturation level" for corridors

Garlyn Bergdale responded by presenting two issues that would need to be addressed:

1) have agencies addressed saturation of utility corridors in any of their plans
2) are there any legal precedents to follow

Al Hendricks mentioned an article in a Mt. Wheeler Coop newsletter that stated the IPA 230kV line is rarely energized.

Greg Kimble (LADWP) responded that the line was placed to supply the Mt. Wheeler Coop with backup power.

Pat Hasenoehrl (IPCo) added that rumor has it that IPA has some political problems that affect the line's use.

Several other concerns were raised about the purpose and need of transmission line proposals of UNTP and SWIP. How do these proposals relate with respect to regional energy development

Garlyn Bergdale suggested asking the question: "Which connection is more important to regional energy development - the north-south connection or the east-west connection?"

Al Hendricks suggested the possibility of SWIP looking at an alternative connection south from Ely to Alamo (Delamar Valley area).

Regional Systems Planning

There was an open discussion of regional systems planning by utility companies that included:

- timing of UNTP and relationship with SWIP
- development of power plants Thousand Springs and White Pine Power Project
- regional system response to various demand scenarios
- attempts to look at electrical power needs regionally and predictions of changes in systems

Action Items:

1. A flow chart for this process and description of general mitigation measures will be distributed to all the agencies sometime in December (Jim Jensen).

2. Action Item - Garlyn suggested that Greg Kimble find out what the purpose and need were for the construction of this line (Greg Kimble).

ATTENDANCE LIST
FOURTH SWIP STEERING COMMITTEE MEETING
November 7, 1989

Name	Representing	Phone
Patrick Hasenoehrl	Idaho Power Company	208-383-2746
Garlyn Bergdale	Dames & Moore	602-371-1110
Jim Jensen	Dames & Moore	208-344-6140
Rod Lee	BLM	801-896-8221
Larry Sip	BLM-Fillmore	801-743-6811
Karl Simonson	BLM-Burley	208-678-5514
Ron Replogle	NPS San Francisco	415-556-5750
Al Hendricks	NPS-Great Basin NP	702-234-7331
Mike Mann	Idaho Power	208-383-2770
Dave Vandenberg	BLM-Elko	702-738-4071
Ron Sjogren	BLM-Ely	702-289-4865
Dave Meyers	Idaho Power	208-383-2728
W. Toby Rhue	U.S. Forest Service-Ely	702-289-3031
Darwin Snell	BLM-USO	801-539-4102
Ed Tilzey	BLM-Reno	702-328-6288
Mike Barnes	BLM-USO	801-539-4119
Greg Gault	Dames & Moore	208-344-6140
Charles Holloway	LADWP	213-481-4886
Gregory R. Kimble	LADWP	213-481-3635

NOTES FROM THE FIFTH SWIP STEERING COMMITTEE MEETING

April 19, 1990
Salt Lake City, Utah

Inventory Review Problems

- send out only the panel maps and data that each agency needs to review
- review time is important
- agency personnel need more advance notice of appointments by Dames & Moore personnel for data collection and review
- Toby Rhue and Al Hendricks (FS and NPS) did not receive clearfilm maps (slicks) for use in their review
- data problems - ECTC has impeded progress of data collection for some resources: Linwood Smith - biology

SWIP Scope Expansion

Pat Hasenoehrl (IPCo) discussed expansion of SWIP:

1) Sierra Pacific will likely build a substation at Rocky Peak and a 345kV connection to Midpoint Substation

2) explained the "buildout" map with about 20+ year planning horizon
   - expansion of IPP, Bonanza, TSPP, WPPP

Toby Rhue (FS) thinks the agencies need to be able to review something in writing on the purpose and need for SWIP and the "crosstie"

Open discussion on keeping crosstie in with SWIP:

- Ed Tilzey (BLM) thinks it should remain a part of SWIP. He added that he thought it should be in-service by 1995-96
- Al Hendricks (NPS) does not think it should be part of SWIP
- Karl Simonson (BLM) thinks original need to get to Utah is still valid and favors keeping the crosstie as part of SWIP

Locations of scoping meetings for the SWIP expansion should appear in Federal Register Notice: one in Ely and one in Las Vegas area (Alamo?) (Ed Tilzey will decide location of 2nd scoping meeting)

The next newsletter should announce the expanded project scope and should be timed with respect to the scoping meetings (at least 2 weeks before meetings)

Federal Register - notice should be sent in within 2 weeks of receipt of amended ROW application. To get a notice published, it needs to be in by a Friday to be published by Wednesday of the following week

Need to get additions for mailing list from Las Vegas District
- Jerry Wickstrom - new Las Vegas District contact

IPCo will handle amendment of ROW application.

Need to find the document regarding joint plan of development (may have to get from Karl)
- Toby Rhue (FS) wants only one (combined) document.

White Pine County Commissioners - discuss with LADWP (Dennis Whitney)

Review new schedule with Karl Simonson and IPCo - send out to Steering Committee. Garlyn Bergdale mentioned that D&M would proceed with data collection prior to the scoping meetings to maintain the proposed schedule. He added:
- 25 weeks to complete draft EIS
- 80 weeks to Record of Decision (adds about 6 months to the current schedule)

Dames & Moore expects to complete a draft of the Purpose and Need by mid - May
- draft of Purpose and Need to agencies in June

Ed Tilzey talked about Stateline Resource Area RMP (Las Vegas District) currently under way which covers all of Clark County

Ron Sjogren (BLM) mentioned that the Ely District office was moving this month

Karl Simonson - BLM needs new cost estimate for additional work:
- grant preparation, monitoring, etc.

Karl suggested the name of the expanded project corridor be Steptoe - Harry Allen

Jim Jensen (D&M) reviewed the impact assessment process with a slide show and presented the committee some of the preliminary results on 1:100,000 scale computer plots (maps).

Jim also reviewed the new maps being prepared for the expanded project for which two new panels will be required.

Pat Hasenoehrl discussed and presented "dulled" and "darkened" samples of tower material for the committee. D&M followed his discussion with a brief video presentation on the reflectivity of guyed lattice towers used on the Arizona Interconnect Project.

Jim Jensen presented to the committee the following aspects of the route selection process:
- substation site selection process using both engineering and environmental criteria to determine the preferred site
- sub-route analysis to determine routes for comparison
  - preliminary sub-route review with PIs and agency representatives
  - Delphi session process
- spreadsheet analysis of routes - weighted and unweighted
- GIMS "path of least resistance" processing

Purpose and Need will be reviewed at next steering committee meeting

Dames & Moore needs to:

- get WPPP backup data
- review WPPP corridor we have mapped - send to LADWP through Pat for review
- send subroute analysis results to agencies when they are complete
- give the agencies at least week of advance notice for assessment review
- update of Plan of Development/Operation and Preparation Plan
- send letter on desert tortoise issue to FWS in Reno (coordinate with Karl)

Action Items

1. amend ROW application
2. get additions for mailing list from Las Vegas District
3. combine Plan of Development and Plan of Operation and update
4. send a letter on desert tortoise issue to FWS in Reno
5. meet with White Pine County Commissioners
6. review and distribute new schedule
7. complete and distribute a draft of the Purpose and Need to agencies
8. get WPPP backup data
9. have LADWP review WPPP corridor D&M has mapped for study
10. send subroute analysis results to agencies
11. review Purpose and Need at next Steering Committee meeting

ATTENDANCE LIST
5TH SWIP STEERING COMMITTEE MEETING
4/19/91

Name	Organization	Phone
Jim Jensen	Dames & Moore	(208)344-6140
Garlyn Bergdale	Dames & Moore	(602)371-1110
Larry Sip	BLM Fillmore	(801)743-6811
Rod Lee	BLM Richfield	(801)896-8221
Karl Simonson	BLM Burley	(208)678-5514
Ron Sjogren	BLM Ely	(702)289-4865
W. Toby Rhue	FS Ely	(702)289-3031
Ed Tilzey	BLM Reno	(702)785-6483
Al Hendricks	NPS. Great Basin	(702)234-7331
Ron Replogle	NPS. San Francisco	(415)556-5750
Darwin Snell	BLM Utah SO	(801)539-4102
John A. Phillips	BLM Elko DO	(702)738-4071
Jim Mieding	LADWP	(213)481-8631
Chuck Holloway	LADWP	(213)481-4886
Eric Findon	LADWP	(213)481-3635
Pat Hasenoehrl	IPCO	(208)383-2746
Mike Mann	IPCO	(208)383-2770

NOTES FROM THE 6TH SWIP STEERING COMMITTEE MEETING
Salt Lake City, Utah
June 20, 1990

1.Purpose and Need

Ken Plowman (D&M) reviewed the draft Purpose and Need for SWIP (see enclosed outline). Purpose and Need comments from the federal agencies are due to Karl Simonson by Friday, July 27, 1990.

Jerry Wickstrom (BLM) asked how the east-west segment of the Utah Nevada Transmission Project (UNTP) and SWIP relate. Pat Hasenoerhl explained this segment or crosstie of UNTP is the only part of that project not permitted. At the last Steering Committee Meeting, BLM asked that this crosstie be retained as part of the SWIP EIS/PA to facilitate east-west transmission capacity and reliability.

Jerry had questions about the cumulative effects of SWIP especially as congestion builds in the Las Vegas area for transmission lines and generation projects. Pat stated that SWIP does not necessarily contribute to the congestion, it is scheduled to terminate at the Harry Allen II (Dry Lake) Substation site 25 miles northeast of Las Vegas.

Jerry went on to describe some of the projects planned for the Las Vegas area. Garlyn Bergdale (BLM) requested a listing of those projects and agreed that Dames & Moore would examine these projects for their application to SWIP, in particular APEX and its impact on the three potential terminal points for SWIP in the Harry Allen II area. Garlyn also agreed to develop a cumulative model for assessment in those areas SWIP would affect.

Al Hendricks (NPS) asked at what point is a decision made as to the economic and environmental feasibility priorities between these many proposed transmission line projects. Pat replied that compatibility with overall utility resource plans and consumer energy demands are the key factors. If SWIP is built, capacity needs to the south of Ely can then be reexamined.

A general discussion followed about transmission corridors, the Record of Decision (ROD) made on the WPPP transmission corridor, and how many lines are allowed in an approved corridor. Garlyn stated that some RODs limit the number of lines. Karl didn't believe the WPPP corridor had any limits, ROD 330' and 2 lines. Pat discussed decreased reliability factors if too many lines were built in one corridor. He said that four to eight circuits are technically feasible, it all depends on length of the line and size of the circuits. In the short distance involved for Sunrise Mountain, reliability would probably not be a factor.

Al Hendricks asked about the Sunrise Mountain WSA problem and the viability of SWIP if additional transmission capacity is not built south of Harry Allen II (Dry Lake) through Sunrise Mountain. Pat responded that SWIP would still have a viable interconnection at Harry Allen II but not at the 1200 MW capacity to make SWIP economically feasible.

2. SWIP Expansion

Jim Jensen (D&M) outlined the Sunrise Mountain situation. Apparently Sunrise was released from wilderness consideration by BLM in Nevada. However, that area was specifically designated a wilderness study area in the Federal Land Policy and Management Act of 1976 (FLPMA) and can only be released by federal legislation.

The IPP gained an imperfect right-of-way because FLPMA was overlooked at the time IPP's right-of-way was initially granted. LADWP is trying to perfect that right-of-way for the UNTP through legislation now pending in Congress.

Jerry Wickstrom explained the legislation as a complicated land exchange measure between the BLM, WPS, FS, the city of Henderson and others. The exchange grants a mile wide transmission corridor through the Sunrise Mountain wilderness study area. It will be designated the Sunrise Mountain National Conservation Area and managed by BLM.

LADWP has proposed to amend the existing Navajo - McCullough right-of-way to allow a triple AC circuit through the 25 mile corridor between the McCullough Substation and the proposed Harry Allen II Substation site. Jerry felt there is probably no real visual impact or desert tortoise issue for this corridor. LADWP is doing an environmental assessment for its proposal. Its impact assessment analysis is due the middle of September. Pat added that SWIP would pursue a firm contract path through the corridor using one of the AC lines.

Jim next reviewed the revised SWIP Preparation Plan which includes the contract extension from Ely south to Las Vegas. The impact assessment should be done by the next Steering Committee Meeting in September. The preliminary draft EIS is due the end of October. The draft EIS is scheduled for completion by January, 1991. Public review requires 90 days, so it will extend from January through the end of March. Public hearing will be scheduled for the first of March. The final EIS should come out in July, 1991 with public review through August, and an ROD by September or October 1991.

3. Scoping Meetings

Jim Jensen reviewed the draft and schedule for the upcoming scoping meetings on the SWIP extension. Those will take place June 26, 27, and 28 in Ely, Caliente, and Las Vegas respectively.

The tentative agenda is:

(1) (D&M) Introduction -- 5 minutes

(2) (BLM) EIS Process, Regulations etc. -- 10 minutes

(3) (IPCo) Project Review -- 20 minutes

(4) (D&M) Environmental Studies -- 15-20 minutes

(5) (D&M) Public Comment -- 30-50 minutes

All questions, comments and responses will be recorded on a flip chart.

4. Impact Assessment Results

Jim Jensen reviewed the GIS impact assessment methodology. Karl Simonson asked about tubular steel H-frame towers used as an alternative tower type. Pat Hasenoehrl responded that H-frame towers would not be used as an alternative, but would be used to mitigate specific impact areas (e.g. crossing of Hwy 6/50) problems. Pat said that LADWP had agreed to the generic and specific mitigation measures outlined in the SWIP Preparation Plan. Al Hendricks asked Chuck Holloway if LADWP had agreed to those measures. Chuck said LADWP had agreed to the mitigation list, but had not had an opportunity to review the locations where mitigation has been recommended by Dames & Moore. Commitments on mitigation would be made specifically once this review has taken place.

Several of the agencies requested additional materials to help interpret their GIS impact assessment information. The Richfield BLM District also requested another set of inventory maps.

5. Subroute Analysis

Jim Jensen reviewed techniques and methodology for the process of categorizing and eliminating subroutes for SWIP. He illustrated on the board what they are calling subroute areas, or sets of links with common end points. Jerry asked about the point in the process where the best subroutes are identified. In response, Jim described the D&M technique where resource personnel from the consultant and the agencies meet for several days in a modified Delphi process to decide on best route alternatives. This will be done once impact assessment review is completed by the agencies.

6. Action Items

1. Inventory and impact assessment for the project extension should be completed by Dames & Moore by mid-July.

2. The agencies should have their evaluation of the impact assessment reports to Karl by July 5th so he can have them to D&M by July 10th.

3. D&M will get templates to:

    - Richfield BLM District -- 10
    - Humboldt Forest -- 5
    - Elko BLM District -- 5

4. D&M will evaluate the effect of APEX on potential substation sites.

5. D&M will send revised Preparation Plan to Steve Dondero, BLM Elko District.

6. Jerry will provide D&M with list of generation and transmission projects in Las Vegas area.

7. Karl will determine guidelines for direction of a cumulative effects study by D&M.

8. Comments from agencies on draft Purpose and Need are due to Karl by July 27th.

9. Next Steering Committee Meeting will be September 6, 1990 in Las Vegas. Tour of Sunrise Mountain Area will be arranged.

ATTENDANCE LIST
6TH SWIP STEERING COMMITTEE MEETING
June 20, 1990

NAME	COMPANY OR AGENCY	PHONE #
1. Jim Jensen	Dames & Moore	208-344-6140
2. William T. Rhue	FS-Ely	702-289-3031
3. Larry Sip	BLM-Fillmore	801-896-8221
4. Jerry Wickstrom	BLM-Las Vegas	702-647-5000
5. Gary Bowers	BLM-Elko	702-738-4071
6. Garlyn Bergdale	Dames & Moore	602-371-1110
7. Greg Gault	Dames & Moore	208-344-6140
8. Chuck Holloway	L.A.D.W.P.	213-481-3635
9. Karl Simonson	BLM-Burley	208-678-5514
10. Rodney Lee	BLM-Richfield	801-896-8221
11. Al Hendricks	NPS-Great Basin NP	702-234-7331
12. Ron Sjogren	BLM-Ely	702-289-4865
13. Steve Dondero	BLM-Elko	702-738-4071
14. Pat Hasenoehrl	Idaho Power	208-383-2770
15. Ken Plowman	Dames & Moore	801-521-9255

NOTES FROM THE 7TH SWIP STEERING COMMITTEE MEETING
September 6, 1990
Las Vegas, Nevada

Desert Tortoise

Jim Jensen began discussion of the Clark County Desert Tortoise Habitat Conservation Plan (HCP).

Sid Sloan, Las Vegas District biologist, gave a summary of the effort that Clark County is going through. Plan will go through Section 10 consultation with the Fish & Wildlife Service (FWS). BLM is cooperating in planning effort.

- plan is to allow continued development in Las Vegas valley
- Clark County and cities proposing plan
- currently there are three alternatives - proposed action includes setting aside "preserve" areas, which include Arrow Canyon (WPPP corridor).

Category I & II habitat areas proposed for more stringent protection. Arrow Canyon one of the areas.

There area 3.5 million acres of Category I & II areas affected. What is viable size for habitat area? The bigger the better (experts from UNLV say). Areas can be smaller if management minimizes disturbance and human activities.

Sid Sloan considers transmission lines to be less likely to impact tortoises than some other activities, though there is some problem with predation by ravens and raptors. Arrow Canyon has good population structure and numbers.

Several genetic sub species of tortoise:

- Mojave
- Arizona (not listed-may be by January 1991)

There are also thought to be three genetic variations of the desert tortoise in southern Nevada.

The FWS will approve the HCP. BLM represented on Steering Committee and on the agency and interest groups committee (committee recommends plans to Steering Committee).

BLM has rangewide plan for action:

- mitigation
- minimize surface disturbance
- Section 7 consultation

Policy of "no net loss" in habitat.

Stateline RMP

Garlyn Bergdale stated that the SWIP EIS will approve utility use before RMP EIS is complete. How will cumulative impacts be addressed in the RMP?

Pat Hasenoehrl (IPCo) discussed "high capacity" corridor to resolve conflicts with Sunrise Mtn. - Henderson corridor (see attached diagram).

Sid Sloan asked if Northern terminus could be put further north in the Pahranagat Valley. Pat responded that it would reduce capacity of lines within "open market bus" by increasing the distance.

Jerry Wickstrom (BLM) displayed and discussed the first cut of utility corridors for RMP designation. He asked when the utilities will know more about the feasibility of the "high capacity" corridor. Pat responded that it would hopefully be by the end of the year.

Jerry Wickstrom and Jim Jensen discussed the problems with substation location and utility corridor designation through the APEX industrial site. The corridors are exclusive to development. Because Congress designated 1800 feet corridors, the acreage available for development within APEX has been reduced from around 9000 acres to less than 3000 acres. Jerry feels there should be another way of getting into the IPP 500 DC and Navajo-McCullough without going through APEX (e.g., I-15 of WPPP corridor).

Jim Jensen will have a meeting on September 12 with Roger Alexander regarding APEX and the utility corridors in the Stateline RMP.

Route Selection Process

Garlyn Bergdale discussed why route selection meeting in Denver was canceled. Then he discussed the process that Dames & Moore intends to use to determine the environmentally preferred route.

Larry Sip (BLM) asked why a route that does not follow an existing transmission line does not have higher impacts than one that does.

Larry Sip and Rod Lee (BLM) said that they were not shown how the impact assessment models work and how to understand the results. They don't believe that the route that looks good in the summary tables can be right and that something must be wrong with the models.

Garlyn suggested that Dames & Moore send someone to Richfield to go through the impact assessment models/maps. (Later if was decided that Richfield did not have a problem with the models or process and this would not be necessary). Garlyn pointed out that the problem with the summary tables (miles of impacts) do not reflect impacts to military airspace, agriculture uses, and the re-assessment of wildlife impacts (due to new agency inventory data). The tables are incomplete, and cannot be used by themselves without a decision process.

Garlyn stressed that the process is important and that the agencies have been involved from the beginning in the process. He expressed concerns that the process could be in jeopardy if now there are questions about the validity of the impact assessment models.

After lunch Rod and Larry said that they did agree with the process and the models, but disagree with the results. (See action items).

The Route Selection Meeting was scheduled for November 27-29, in Denver, followed by meetings with each agency management. December 10-14 will be the week of follow-up meetings to present the results to the agency managers. Garlyn and Jim go around to the various agency offices for these meetings.

Project Schedule

Karl Simonson asked what could be done to expedite the BLM review of impact assessment review. See action items. Ed Tilzey felt a memo reminder to District Managers would be helpful to help reviewers schedule their time.

Mike Mann (IPCo) asked if the intent of schedule was to have public workshops before IPCo and
agency preferred routes are determined.

Garlyn and Jim responded that the process intends to incorporate public input. The timeframe is very tight. Garlyn suggested maybe doing the meetings in one week. Logistics would be a problem. Ed Tilzey suggested that two teams could get that done in a week. See action items.

Dry Lake Alternative

Jim Jensen described the additional alternatives.

Chuck Holloway (LADWP) asked how the use of a new alternative would effect the WPPP Record of Decision. Ed Tilzey stated that the WPPP Record of Decision would need to be amended.

Ed said that the military could not legally stop the project through MOAs. It makes sense to not "butt" heads with the military.

Ed stated that Caliente RA would like to see a double-circuit through Pahranagat Wash (west of Delamar WSA) until congress acts on wilderness. (Refer to action items). Ed also suggested that the utilities get together to work out a mitigation alternative to avoid impacts to WSAs.

Mitigation Commitments

Jim Jensen discussed the schedule of deliverables noting when commitments will be made on mitigation and the process involved.

Pat stated that his understanding now is that the WPPP Record of Decision would be amended and SWIP and UNTP would be parallel projects. Pat sees that perhaps IPCo should be cooperatively working with LADWP (sharing costs).

Other discussion items:

Cumulative effects will have to address a corridor that will contain SWIP, UNTP Phase I & Phase II, and WPPP.

Pat Hasenoehrl suggested that the lists of tasks for utilities and BLM needs to be done. (e.g.- notice of public meetings, newsletter reviews, etc.). See action items.

Purpose and Need

Jim Jensen stated that comments from BLM were generally good. Dames & Moore/IPCo will respond to comments. Jim added that responses to comments on impact assessment would be sent back to BLM to illustrate what will be done regarding comments.

Sunrise Mtn.

Chuck Holloway updated progress on EA for triple-circuiting through Sunrise Mtn. WSA. A preliminary EA was submitted to Las Vegas District for review.

Legislation is in the House of Representatives and will soon be introduced into the Senate. Proposed RMP utility corridor through Sunrise is still uncertain.

On Pahranagat Wash there is room for only two lines (double circuit). What about the other two lines that are ultimately proposed? How are cumulative effects addressed?

Ed Tilzey said that if the WSA situation is not cleared up, lines after SWIP may have to go over the Delamar Mtns (Link 68).

ACTION ITEMS

1. Jim Jensen will respond with a letter to BLM on the request for double circuit towers through the Parahnagat Wash area (between Delamar and Evergreen WSAs). He will need to discuss this with IPCo.

2. Expand schedule of deliverables and reviews.

3. Dames & Moore will follow up shipments of anything sent to BLM with calls to make sure it is received.

4. Garlyn will follow up with agreement with Richfield District as necessary to make sure they understand the process.

5. Give adequate notice in advance of delivery of review items (e.g., impact assessment). Two to three weeks would be adequate.

6. Dames & Moore will re-evaluate the timing of public workshops.

7. Check past meeting notes for discussion of land report by Karl Simonson.

8. Send memo to District Managers as a reminder during SWIP review periods.

9. LADWP should send Dames & Moore a copy of the Preliminary Sunrise Mtn. EA.

ATTENDANCE LIST
7TH STEERING COMMITTEE MEETING
September 6, 1990

ATTENDANCE	COMPANY	TELEPHONE #
Vernon Porter	IPCo	(208)389-1085
Mike Mann	IPCo	(208)383-2770
Pat Hasenoehrl	IPCo	(208)383-2746
Garlyn Bergdale	Dames & Moore	(602)371-1110
Jeffrey G. Steinmetz	BLM	(702)647-5000
Chuck Holloway	LADWP	(213)481-4886
Steve Dondero	BLM	(702)738-4071
Ed Tilzey	BLM	(702)785-6483
Ron Sjogren	BLM, Ely District	(702)289-4865
W. Toby Rhue	FS, Ely	(702)289-3031
Al Hendricks	NPS	(702)234-7331
Jim Jensen	Dames & Moore	(208)344-6140
Darwin Snell	BLM Utah State Office	(801)539-4102
Larry Sip	BLM, Fillmore	(801)743-6811
Rod Lee	BLM, Richfield D.O.	(801)896-8221
Karl Simonson	BLM, Burley D.O.	(208)678-5514
Tim Murphy	BLM, Caliente R.A.	(702)726-3141
Greg Gault	Dames & Moore	(208)344-6140
Jerry Wickstrom	BLM	(702)647-5000

NOTES FROM THE 8TH SWIP STEERING COMMITTEE MEETING
December 11, 1990
Denver, Colorado

Jim Jensen opened the meeting with a review of the agenda (enclosed) and introduction.

Discuss EIS Outline Comments

Reviewed Karl Simonson's letter which consolidates Agency Comments. Jim Jensen (Dames & Moore) went over each comment, and appropriate changes were made. The consensus was to follow NEPA guidelines.

Under Chapter 3 - Alternatives, Karl Simonson (BLM, Burley) asked about the difference between "Alternatives Eliminated from Consideration" and "Routing Alternatives Considered but Eliminated."

Jim Jensen explained the former category covered those alternatives meeting the need for transferring electricity without building SWIP. The latter term covers those alternative routes actually studied by the EIS process.

Jim also mentioned there would be a comparative table of the alternatives in the draft EIS/PA as required in the NEPA Handbook.

Jerry Wickstrom (BLM, Las Vegas) asked if impacts in the comparison of alternatives were assessed on a project or corridor basis. Jim replied it was on a corridor basis and referred to the regional study completed before work began on the SWIP EIS.

When discussing a "Comparison of Impacts" table to be included in Chapter II, Jerry Wickstrom wanted cumulative impacts tied to the table. Jerry stated that cumulative impacts are the critical issue in the Las Vegas area due to the Desert Tortoise.

Jerry then brought up cumulative effects for SWIP. Jim referred to a handout describing the two major elements in the cumulative effects evaluation. One focused on SWIP, UNTP and WPPP. The other concentrated on each environmental resource in the corridor.

Al Hendricks (NPS) posed a question about the 5 - 10 year planning horizon and the fact that SWIP is not mutually exclusive from other lines being planned. Jim responded that the time frame was not intended to exclude other factors affecting transmission lines. The intent is to enhance the environmental sections of the EIS to set up the cumulative effects as part of the Alternatives Chapter.

Jerry Wickstrom stated there are permanent environmental problems that no time frame will affect. Cumulative effects need to be solved now because of implications for the entire transmission corridor from Canada to California. Mike Mann (IPCo) and Jim Jensen pointed out that NEPA requires cumulative effects to be project specific and "for the foreseeable future."

Steve Dondero (BLM, Elko) expressed the concern that cumulative effects could be considered ad infinitum in the historical context. Jim said that significant parameters are usually set by resource specialists. The agencies should carefully review the preliminary draft EIS to see whether these parameters are appropriate.

Ed Tilzey (BLM, Nevada State Office) mentioned that Nevada does have timeframe guidelines for cumulative effects analysis. He will get a copy to Dames & Moore and IPCo. BLM uses a 20 year planning horizon. The Utilities use a 10 year horizon.

LADWP said that UNTP Phase II will utilize one of the WPPP lines. This lowers the total amount of future 500kV lines in the White Pine corridor to four (SWIP, UNTP Phase I, and two WPPP lines).

A general discussion of the 5 to 10 year timeframe followed. Jerry reemphasized his position about considering the whole corridor for cumulative effects.

Jim objected, stating he was not sure Dames & Moore could define the threshold impact of cumulative effects for the entire corridor -- that this is a land use plan issue. Karl agreed saying it was not fair to require one project to do the corridor planning for BLM.

Ed Tilzey and Jerry Wickstrom said their major concern was that the SWIP EIS be in agreement with the overall Nevada state land use plan that is projected for completion some time next year. That plan should do the corridor analysis discussed here.

Next, Jim brought up the scoping chapter in the proposed EIS outline. According to the BLM NEPA handbook, instead of being Chapter 2, scoping belongs in Chapter 5. Karl responded that the SWIP EIS should follow the BLM handbook as closely as possible. It was agreed to move proposed Chapter 2 to part of Chapter 5.

Karl raised the issue of the project description in Chapter 1 under Purpose and Need. Again, the NEPA handbook should be followed.

Chapter 1 is normally the Introduction and includes a brief project description along with a purpose and need section.

Review Preparers and Contributors

Jim Jensen asked for agency guidance regarding who should be listed in this section of the EIS. Ed Tilzey agreed that those agency personnel with significant involvement plus those resource specialists currently in-place for SWIP should be listed.

Review COM Plan

Jim Jensen introduced the Construction, Operation, and Maintenance Plan, December 1990, as an on-going draft document.

Dave Vandenberg (BLM, Elko) did not anticipate any major range improvement issues but he wanted to make sure those are addressed in any COM Plan. Mike Jacobs (IPCo) said it was his company's intent that the COM Plan will eventually be very specific. IPCo has stated their policy about gates in a letter to Jim Jensen. IPCo will address gates according to what the land manager or land owner wants.

Jim said the COM Plan will have to remain fairly general until the engineering and specific environmental surveys are completed. The SWIP biological opinion for desert tortoise needs to be out before the FEIS.

BLM asked if the biological report would come out in the EIS. Jim Jensen explained that the report is done after a route is chosen. A Section 7 study occurs where the Fish & Wildlife looks at endangered species (usually after a Record of Decision; for SWIP, would be required before ROD).

Larry Sip questioned the reference in the COM Plan to unpainted galvanized steel used in the tower structures. Jim Jensen referred him to extensive discussion on "dulling" in previous steering committee meetings.

Ed Tilzey asked about specific locations for the various tower types. Karl said that would be addressed in the COM plan.

Review Purpose and Need

Ken Plowman (D & M) explained the December, 1990 revised version of the Purpose and Need Chapter. This version is based on agency comments received through Karl Simonson after the initial version was introduced in the June steering committee meeting.

The agencies responded by page, paragraph and sentence. A side by side comparison of the initial and revised versions was prepared to show where agency comments and concerns were addressed.

Minor comments were noted in this meeting with the understanding that further comments may be forthcoming.

Moapa Corridor

Jerry Wickstrom said that the Clark County's Desert Tortoise Conservation Plan is nearly complete. Jerry asked Dames & Moore to look at the Moapa River Corridor as an alternative to a section of the WPPP corridor (Arrow Canyon) to avoid possible Desert Tortoise habitat (refer to Clark County draft HCP for Desert Tortoise). Arrow Canyon is a high priority area while Moapa is in a lower priority area.

Ed Tilzey said parts of the Moapa corridor involve narrow passages and possible right-of-way (ROW) across private land owned by Aerojet. BLM will send a letter to Aerojet to ascertain specifics of a ROW. The U.S. Fish and Wildlife Service may also have some purview over management of public lands in that area. Jerry Wickstrom and Ed Tilzey of BLM will meet with Fish and Wildlife to determine responsibilities and potential transmission crossing of the area.

Garlyn Bergdale (D&M) felt D&M had initially agreed to update the WPPP corridor for SWIP and that the MOAPA alternative doesn't fit the description of what BLM was intending to accomplish.

Jim Jensen discussed a fatal flaws analysis of the Moapa alternative and concluded that there are some difficulties but no fatal flaws. The difficulties were:

1. Difficult to get between Aerojet and Arrow Canyon WSA. If lines could cross Aerojet, it would solve the problem. Need letter from Aerojet stating that they will consider the proposal (Jerry Wickstrom to handle).

2. Visual effects to residences around Moapa.

Ed Tilzey said the WSA (Arrow Canyon) will probably drop out in 5 years making both routes feasible. This may lead LADWP to amend their ROW grant to go through Moapa.

Pat Hasenoehrl (IPCo) wanted BLM to define from Midpoint to Dry Lake, the exact alternative BLM wants to evaluate. He stated that IPCo had agreed to examine the WPPP corridor and to meet with other utilities to discuss "in principle" (quoting a letter) cooperation to minimize the number of transmission lines through Sunrise Mountains/Henderson.

Garlyn Bergdale said it was not fair to make SWIP do the BLM's resource planning.

Pat Hasenoehrl asked if there was anything that would come out of the SWIP document that would change the UNTP ROW grant and assignment? Ed Tilzey responded "no." UNTP is separate and IPCo will continue to fund this alone. However, BLM has asked us to include (2) White Pine lines in the analysis. LADWP should assist in the costs.

Will future WPPP lines tier off the SWIP EIS? Jerry Wickstrom said that the land use plans should be complete by then as well as Section 7 decisions. WPPP may have to follow SWIP.

There is room on the south side of the Moapa corridor. This would require 2 major crossings of the Navajo-McCullough and the IPP DC line. From a reliability standpoint, this may not be feasible. Fatal flaw? The possibility of relocating the DC line to south side was raised. LADWP didn't think it would be feasible.

LADWP and IPCo are to examine technical and economic feasibility of Moapa corridor and get back to BLM. This will probably prove to be a fatal flaw to the corridor.

Pat Hasenoehrl asked if Moapa is not technically feasible, do we:

1. Perform a regional study as we did for the northern segment?

2. Continue with present plan to tier off the WPPP ROD and deal with Section 7 problems that arise with Fish and Wildlife?

The decision was to continue with present plan.

Garlyn Bergdale asked the BLM to tell us how much disturbance in a Class 1 area can the desert tortoise take. How many acres of disturbance is acceptable? How about Class 2 or 3 areas? BLM to find out.

In connection to the MOAPA corridor discussion, Pat Hasenoehrl introduced Ron Schellberg (IPCo) to review a study, "Reliability of Multiple Circuits on a Single Right-of-Way" (enclosed). That study concluded that a 2,000 foot separation between similar function power lines should exist for reliability purposes. To satisfy the Western States Coordinating Council (WSCC) there needs to be:

1. 1500' separation between SWIP and UNTP - may need more to make 4 lines including White Pine a reliable corridor without extensive remedial action.

2. In pinch points, build to a higher than normal level of construction.

The 2000 ft corridor between SWIP and UNTP needs to be mentioned in the Purpose and Need statement.

BLM thinks that if WPPP lines can fit between SWIP and UNTP, they can sell it. A study must be performed to determine how the WPPP lines can be aligned with SWIP and UNTP to minimize effects on the desert tortoise.

LADWP agreed to double circuit at pinch points such as Pahrangat Wash and Arrow Canyon. BLM wants a plan for all four lines in pinch areas. BLM may require 2 double circuit lines or some equivalent plan at pinch points. LADWP and IPCo to come up with a plan.

Pat Hasenoehrl said such reliability could be threatened on the MOAPA alternative because there was a potential crossing of the IPP DC line to reach the south side of the corridor.

Ed Tilzey and Jerry Wickstrom asked about the technical feasibility of moving the existing DC line. Chuck Holloway (LADWP) said as much as 5,000 MW moves across the DC line at one time for service to Los Angeles. Economically, it would be impossible to disrupt service.

Eric Findon (LADWP) said it could possibly be done by rerouting power on an AC line, while moving the line but it would not be cost efficient. He added that it would probably cost LADWP $1 million a day, and a week to move that DC line.

Pat also raised the point that crossing lines does not meet the WSCC reliability standards.

In a week, LADWP will provide data to BLM to determine if it is feasible to move lines around the MOAPA alternative.

Pat Hasenoehrl said that if LADWP concludes it is not feasible to move its lines, SWIP will have two choices, to either stick to evaluating the existing WPPP corridor or conduct a

regional study for the southern extension to consider other alternative routes. The original regional study did not cover that area.

Sunrise Mountain EA

Sunrise Mountain legislation did not go through before Congress adjourned in October. Consequently, the triple-circuit EA is very important.

Jerry Wickstrom said the EA for a triple circuit through the Sunrise Mountain area is about done. He will meet with the new Nevada State BLM Director, Billy Templeton, after the first of the year (1991). If the State Director does not approve the EA, the Sunrise Mountain corridor will have to wait until 1995, when the Nevada wilderness package will likely be considered by Congress.

Status of Mitigation Commitment

IPCo and LADWP have committed to generic and specific mitigation for SWIP in the COM Plan. In the workshops in Denver, alternatives will be compared to see if that mitigation is appropriate.

Jim Jensen stated the final mitigation product is the mitigation plan for the FEIS. It will stipulate specific mitigation for the actual route, i.e. access plan, rehabilitation plan, COM Plan etc.

A question was raised regarding the impact to cultural sites, etc., during emergency work. Utility patrolmen would need to be familiar with these sites.

Jerry Wickstrom to send Jim Jensen a copy of AT&T's "How to Educate Employees About the Desert Tortoise."

BLM asked for more information on site/road reclamation, specifically, what size of equipment will be used?

Karl Simonson noted that after the ROD, a ROW grant will be issued subject to approval of the COM Plan. Only after that is completed will IPCo receive a Notice to Proceed.

IPCo and LADWP reserved their right to review the mitigation once the EIS is completed.

Other Issues

Bart Young (National Park Service) gave a presentation on the potential visual impact of SWIP alternatives on the Great Basin National Park. He favors the northern route.

The Richfield District does not agree with the Park Service and feels the line should follow the existing 230kV corridor.

The Elko District was concerned that current land uses are not properly identified, such as grazing, fences, gravel pits, phone lines, springs, etc. Garlyn Bergdale said that everything was covered except phone lines and fences. Fences will not be a deciding factor unless you have two corridors which are essentially equal. Mitigation will handle landowner's concerns.

Elko District was also concerned that view sensitivity along I-84 wasn't getting proper attention. Preliminary good visual route selections by BLM were dropped out. Garlyn stated that Dames & Moore puts a lot of emphasis on visual impacts. BLM tends to neglect impacts to residences. A best route for visual along with the best route environmentally will be given to BLM for their review. Dames & Moore will hold mini-workshops with Districts if they still are not satisfied.

Karl Simonson asked the Districts if they agreed with the mitigation specified in the COM Plan. Yes, the Districts agreed. However, there were some complaints about being too general. Pat Hasenoehrl stated that once a route is selected and design started, then we can get to the specifics.

Marty Rozelle (D&M), Director of the Public Involvement Group, reviewed the planning workshop process for the next two days.

Jim Jensen adjourned the meeting with the comment that further discussion of the SWIP schedule and other issues may occur between sessions of the planning workshops.

Cumulative Effects

Since the BLM planning horizon is 20 years, Dames & Moore needs to project out 20 years.

Karl Simonson asked for agreement on 1500' separation south of Delamar Valley where SWIP and UNTP come together. No problem with IPCo 345kV or crosstie 230kV/500kV separation.

Ed Tilzey pointed out that you can meet 1500' everywhere but at pinch points.

Jerry Wickstrom asked about the effect of pinch points on reliability.

Pat Hasenoehrl replied that IPCo does have to prove to WSCC that by building to a high safety factor in pinch point areas where lines are close together on double circuit towers, a simultaneous outage is a non-credible event.

Jerry Wickstrom wants WPPP lines to be adjacent to SWIP or UNTP, not floating out in the middle of the corridor. At pinch points, utilities will have to prove that all 4 lines can get through.

Ed Tilzey stated that the BLM may require SWIP and UNTP to build double circuit towers to allow room for future lines at pinch points. Utilities to coordinate and come up with plan. Other factors at pinch points will be existing low voltage lines and roads.

Pat Hasenoehrl asked what will WPPP be required to do to permit their lines?

Ed Tilzey said that they will have to go back and re-evaluate the document. This may require a supplement document. The rule of thumb is if a document is more than 5 years old, you must re-evaluate. The desert tortoise problem may eliminate routes or may not even let lines in the WP corridor.

Pat Hasenoehrl expressed a need for guidance and asked "Can four lines physically be placed in one corridor? If not, why should we plan for four lines?"

Ed Tilzey said that he will take Jerry Wickstrom to Reno and talk to the Fish and Game. He doesn't want to close out any options, but we can't assume that WPPP lines will go between SWIP and UNTP.

Action Item Summary

1. Jerry Wickstrom and Ed Tilzey of BLM will meet with Fish and Wildlife to determine responsibilities and potential transmission crossing of the area.

2. In a week, LADWP will provide data to BLM to determine if it is feasible to move lines around the MOAPA alternative.

3. Utilities and Agencies tow review COM Plan and Purpose and Need. Comments to be forwarded to Dames & Moore.

4. Utilities to study pinch point areas and develop a plan which incorporates four 500kV lines.

5. Utilities to provide a conceptual map to the BLM which shows tower/foundation types along the entire route.

6. Ed Tilzey to send Jim Jensen a copy of Nevada's planning horizon memorandum.

7. Jerry Wickstrom to talk to Aerojet about transmission lines crossing their property.

8. BLM to review southern routes and determine if there were any more routes to be looked at.

9. Jerry Wickstrom and Ed Tilzey to talk to Fish & Wildlife about the desert tortoise.

ATTENDANCE LIST
8TH STEERING COMMITTEE MEETING
December 11, 1990

Attendance	Company	Telephone #
Ronald Sjogen	BLM - Ely District	(702) 289-4865
Karl Simonson	BLM - Burley District Office	(208) 678-5514
Toby Rhue	FS - Ely, Nevada	(702) 289-3031
Vernon Porter	Idaho Power Company	(208) 389-1085
Eric Findon	LADWP	(213) 481-3635
Chuck Holloway	LADWP	(213) 481-4886
Larry Sip	BLM - Fillmore	(801) 743-6811
Al Hendricks	NPS - G.B.N.P.	(702) 234-7331
Pat Hasenoehrl	Idaho Power Company	(208) 383-2746
Mike Jacobs	Idaho Power Company	
Mike Mann	Idaho Power Company	(208) 383-2770
Ed Tilzey	BLM - Reno	(702) 785-6483
Darwin Snell	BLM - Salt Lake City	(801) 539-4102
Jerry C. Wickstrom	BLM - Las Vegas	(702) 647-5000
Steve Dondero	BLM - Elko District Office	(702) 738-4071
Dave Vandenberg	BLM - Elko District Office	(702) 738-4071
Bill Baker	BLM - Elko District Office	(702) 738-4071
Ray Lister	BLM - Elko District Office	(702) 738-4071
Ken Plowman	Dames & Moore	(801) 521-9255
Garlyn Bergdale	Dames & Moore	(602) 371-1110
Jim Jensen	Dames & Moore	(208) 344-6140
Ronald Schellberg	Idaho Power Company	
Bart Young	National Park Service, Denver	

ATTENDANCE LIST
SWIP ROUTE SELECTION WORKSHOPS
Wednesday, December 12, 1990

Name	Representing
Al Hendricks	NPS - Great Basin National Park
W.T. Rhue	Forest Service - Ely, Nevada
Karl Simonson	BLM - Burley District
Mike Jacobs	Idaho Power Co.
Vernon Porter	Idaho Power Co.
Chuck Holloway	Los Angeles Dept. of Water & Power
Larry Sip	BLM - Fillmore, Utah
Darwin Snell	BLM - Utah State Office, Salt Lake City
Ron Sjogren	BLM - Ely District, Nevada
Gerald M. Smith	BLM - Schell R.A., Ely District, Nevada
Jerry C. Wickstrom	BLM - Las Vegas District
Mike Mann	Idaho Power Company
Steve Dondero	BLM - Elko District
Ray Lister	BLM - Elko District
Bill Baker	BLM - Elko District
Dave Vandenberg	BLM - Elko District
Bernie Amell	Dames & Moore
Jim Olsten	Dames & Moore
Dan Moreno	Dames & Moore
Greg Gault	Dames & Moore
Brian Strand	Dames & Moore
Randy Palmer	Dames & Moore
Charles Condrat	Dames & Moore
Jim Jensen	Dames & Moore
Marty Rozelle	Dames & Moore
Carla Alford	Dames & Moore
Linwood Smith	Dames & Moore
Gene Rogge	Dames & Moore
Garlyn Bergdale	Dames & Moore
Chris Miller	Dames & Moore
Pat Hasenoehrl	Idaho Power Company
Ed Tilzey	BLM - Nevada State Office

ATTENDANCE LIST
SWIP ROUTE SELECTION WORKSHOPS
Thursday, December 13, 1990

Name	Representing
Karl Simonson	BLM - Burley District
Ron Sjogren	BLM - Ely District
Toby Rhue	FS - Ely, Nevada
Jerry Wickstrom	BLM - Las Vegas District
Al Hendricks	NPS - Great Basin National Park
Larry Sip	BLM - Fillmore, Utah
Darwin Snell	BLM - Utah State Office, SLC
Gerald M. Smith	BLM - Schell R.A./Ely District
Bill Baker	BLM - Elko District Office
Ray Lister	BLM - Elko District Office
Steve Dondero	BLM - Elko District Office
Pat Hasenoehrl	Idaho Power Company
Mike Jacobs	Idaho Power Company
Chuck Holloway	Los Angeles Dept. of Water & Power
Jim Olsten	Dames & Moore
Daniel Moreno	Dames & Moore

NOTES FROM THE 9TH SWIP STEERING COMMITTEE MEETING
July 25, 1991
Salt Lake City, Utah

Letter from Hill Air Force Base was received by Dames & Moore.

- states that Air Force would require towers under 30 feet on the Direct Route (approximately 61 miles)
- agree to 105' towers through MOAs (per previous discussions and mapping)

Discussion of Moapa alternative (Reno meeting):

- Decision was made that SWIP would not need to consider WPPP lines
- The MPPP in Stateline RA would be in effect, that the RMP would not be complete, and that there are no designated utility corridors in the MFP

Pat Hasenoehrl (IPCo) asked how alternatives would be determined, who would site corridor across Moapa Indian Lands.

Pat expressed concerns that the criteria that excluded Indian Reservations in the Regional Environmental Study were being changed now considering Moapa, and this would be an inconsistency. Garlyn explained that because there are no other alternatives, Moapa was unavoidable, and that it was O.K. because Jerry Wickstrom requested. The study still identifies Moapa as exclusion and is consistent.

Jim Jensen (D&M) informed the Committee that the Nevada Power Co. Resource Plan has been submitted to public service commission. The plan includes:

- Market Place (Dry Lake) to McCullough (through Sunrise/Henderson corridor) connection
- Double-circuit 500kV transmission line to handle 3000 to 3500 megawatts

Pat Hasenoehrl said that NPC could file an application with BLM for ROW as early as next year.

Ed Tilzey (BLM) said that they would encourage the owners of the Navajo-McCullough line to build into Dry Lake.

*Important Note: For SWIP to stand alone it can not rely on Navajo-McCullough or the future actions to occur. Further SWIP should not be dependent on speculative plans by NPC.

Garlyn Bergdale (D&M) raised the question, is the NPC proposal another "but for issue" that could effect SWIP.

Tom Halford (LADWP) asked if NPC had filed application with Nevada Public Service Commission (NPSC) to construct? Response: no need until environmental studies were complete.

Karl Simonson (BLM) stated that there needs to be a clarification in DEIS that the NPC proposal is not dependent on SWIP. Jim Jensen suggested that the connection to McCullough be handled as cumulative effects issue.

Ed Tilzey agreed that Dry Lake to McCullough should not be considered part of the Proposed Action, but discussed in cumulative effects.

Jim Jensen asked add Ed to discuss WSA issue and decisions of Nevada State Director (Reno meeting): the Nevada State Director decided that visual impacts to any WSA within three mile study corridor should be addressed. There should be generic discussion on visual effects, but no specific impacts would be assessed.

Mitigation would be applied based on the distance of a WSA boundary from centerline. Mitigation would include non-specular conductor, dulled towers, and H-frame towers (in some cases)

Jim Jensen and Garlyn Bergdale explained that the analysis would be generic, therefore worst case. Impacts would be addressed in Chapter 4 of the DEIS.

Jim Jensen discussed the Utility Preferred Route.

- Midpoint to Ely - essentially Route G
  - prefer not to use Links 713 and 715
  - prefer to bypass North Steptoe Substation site to connect with Robinson Summit (preferred substation site)

- Ely to Delta
  - 230kV Corridor Route preferred by LADWP, prefer Robinson Summit
  - Cutoff Route (environmentally preferred) incrementally better than 230kV Corridor Route

Garlyn Bergdale stated that the public viewed the Cutoff Route as compromise. Jim added that if the results of the public workshops there were many comments on 230kV Corridor Route that did not prefer it. The public didn't always state preference, rather things they did not like.

General discussion of speculative future projects:

- 230kV connections at Robinson summit
- WPPP lines
- possibility of 2 substations: North Steptoe and Robinson Summit

Cumulative impacts should address future to 50 years, as possible.

Comment period for review of PDEIS: written comments due to Karl Simonson by September 6, 1991. Karl will compile and send to D&M one week later.

Action Items:

- Jim Jensen will coordinate with Jerry Wickstrom and Karl Simonson on development of alternatives for Moapa (for detail study)
- Pat Hasenoehrl would like to look at fine tuning the crossing of US 93 by Link 715 (7 1/2 quad analysis of crossing of US Highway 93 near Contact)
- Send out new wall map with current Link numbers. Distribute to BLM, etc.
- Comments from Districts to Karl Simonson by September 6
- Send Copy of Hill AFB letter to Al Hendricks (per his request)

ATTENDANCE LIST
9TH SWIP STEERING COMMITTEE MEETING
July 25, 1991

Name	Agency	Phone
Mike Mann	Idaho Power Co.	(208) 383-2770
Garlyn Bergdale	Dames & Moore	(602) 371-1110
Tom Halford	LADWP	(213) 481-8809
Steve Dondero	BLM, Elko District	(702) 753-0200
Mike Jacobs	Idaho Power Co.	(208) 383-2923
Patrick Hasenoehrl	Idaho Power Co.	(208) 383-2746
Gene Drais	BLM - Ely District	(702) 289-4865
Jim Jensen	Dames & Moore	(208) 344-6140
Karl Simonson	BLM, Burley District	(208) 678-5514
Ed Tilzey	BLM, Reno	(702) 785-6483
Al Hendricks	National Park Service	(702) 234-7331
Nancy DeMille	BLM, Fillmore District	(801) 743 -6811
Rod Lee	BLM, Richfield District	(801) 896-8221
Greg Gault	Dames & Moore	(208) 344-6140

c:\swip\meetings\steer-9.mtg

NOTES FROM THE 10th SWIP STEERING COMMITTEE MEETING
March 12, 1992
Salt Lake City, Utah

Karl Simonson started the meeting with introductions of several new agency members of the steering committee. Jim Jensen then reviewed the agenda.

Jerry Wickstrom (BLM) discussed Moapa alternatives and corridors. Jerry stated that the "real" tortoise issue occurs between Pahranagat Wash through Aerojet, so from Aerojet south is not really an issue. The issue will likely be the jeopardy opinion by the Fish & Wildlife Service for desert tortoise in Coyote Spring Valley. Ed Tilzey disagreed that the Fish & Wildlife Service (FWS) would issue a jeopardy opinion for a transmission line when Clark County is planning to kill every tortoise in the Las Vegas valley, and this did not receive a jeopardy opinion. However, FWS may stipulate severe restrictions.

Jim explained that the tortoise impacts can be mitigated for a transmission project, primarily by doing construction during the inactive period.

Clark County is continuing plans for the water development project, which includes a 36" water pipeline through the same area as the SWIP in southern Nevada. Section 7 will need to address cumulative effects. Also, the Final HCP Report done by Recon has been out since January.

Ed Tilzey and Jerry Wickstrom will set up meeting (briefing) with the Nevada State Director on the Stateline RMP. Ed will not allow the SWIP agency preferred alternative and the preferred alternative for corridors in the Draft RMP to be different. Also, the preferred alternative of the Stateline RMP proposes to sell BLM lands from the Dry Lake Valley to the Moapa reservation boundary. This will likely be very controversial. Ed stated that other counties will likely take the BLM to the Supreme Court if the BLM tries to sell land. This could tie up the RMP for years.

Jim Jensen asked whether we are working under MFP or RMP. Ed replied that it will be under the MFP unless RMP final decision occurs before the SWIP decision. This is consistent with what the Nevada State Director had told Dames & Moore previously. Garlyn Bergdale asked if Ed would draft a letter documenting the decisions from meeting with the Nevada State Director.

Jerry stated that the explanation of subroute process needs additional work to clarify.

Jerry Wickstrom brought up the issue of the southern endpoint for the SWIP. Ed explained that BLM is treating the Marketplace-Allen Transmission Project (MAT) separately because all of the lines (SWIP, UNTP, WPPP, Warner Allen) will use the corridor and will participate in the "megabus" concept. City of Henderson's court case against IPP #1 line set precedent for lines in the corridor. Senator Reed and Nevada delegation plan to submit legislation this session (with water rights on Virgin River and other issues). If legislation passes, a corridor will be established through the Sunrise Mountain WSA.

Ed Tilzey stated that the SWIP Notice to Proceed would be tied to approval of the MAT (stipulation of ROW Grant).

Pat Hasenoehrl asked whether preliminary engineering and surveys could proceed. Ed said BLM would allow this work but it would be at IPCo's risk.

Jerry stated that Harry Allen power plant may not be feasible because of water issue and air quality issue for a coal-fired plant. Ed stated that BLM will likely require a supplemental EIS for the project because of significant changes to the project description (e.g., change to gas-fired).

Greg Gault presented the concept of the map volume and a mockup that was prepared using maps from Panel 3 only.

Jim Jensen stated that the D&M's preference for the FEIS is to use an abbreviated format. Jerry Wickstrom mentioned a BLM memo saying that abbreviated FEISs are no longer allowed. Both Ed Tilzey and Butch Peugh stated that an abbreviated FEIS is OK except on BLM Land Use plans.

Jerry asked if the EIS, technical reports, and maps can be put on a laser disk to store for future needs and use. Jim Jensen stated that the documents could easily be transferred over on disk, but the maps may present a bigger problem. He suggested that it may be better for BLM just to keep the negatives or printing plates. Pat Hasenoehrl suggested that all of the printing materials would be archived by IPCo and would be available in the future.

Number of Copies of DEIS requested by the involved agencies:

	DEIS	Technical Reports
BIA	3	1
BLM		
Las Vegas District	6	2
Richfield District	10	2
Elko District	5	1
Ely District	28	2
Idaho State Office	15	3
Utah State Office	25	1
Nevada State Office	7	2
Boise District	7	1
Burley District	60	2
Shoshone District	3	1
Forest Service		
Washington	1	
Humboldt NF	2	1
Regional (Ogden)	1	

(cont.)

National Park Service		
GBNP	2	2
Western Region	2	2
Hagerman	1	1
Bureau of Reclamation		
(regional) refer to book		
Burley	3	
LADWP	20	5
D&M	40	40
IPCo	30	10

Karl Simonson told Greg Gault and Jim Jensen that the agencies had met prior to the Steering Committee Meeting and decided that there should be no Dames & Moore logo on the maps.

The reviewer letter should state that reviewers keep their copy of the DEIS because the FEIS may be in an abbreviated format and the maps would not be reprinted.

Public Hearings would be at the same locations as workshops, except there may not be the need to meet in Caliente. BLM will decide whether or not to have a meeting with county commissioners instead.

Jim Jensen pointed out that we will need to announce the locations of the formal public meetings in the next newsletter and the Federal Register Notice of Availability. Karl Simonson will inform Jim of BLM's decision within next couple weeks. Arrangements will be made as follows:

- BLM will provide court reporter/tapes to record comments/testimony
- D&M to arrange for PA system, cookies, etc.
- IPCO to present Purpose & Need
- D&M to provide maps and support graphics and do a short presentation
- D&M to set up the podium with back to audience

Schedule formal public meetings in late August/early September 1992:

- June 12 is the projected date to complete distribution of the DEIS
- June 19 will be the EPA Notice of Availability in the Federal Register

Jerry Wickstrom would like additional information on the desert tortoise issues in southern Nevada.

Ed Tilzey and Jerry Wickstrom will be meeting to decide on the Agency Preferred Route in southern Nevada.

Jerry Wickstrom asked about the Biological Assessment schedule. Will it come out with the DEIS? When will informal Section 7 consultation begin? Jim Jensen replied that BA should be submitted shortly after the formal public meetings unless the FWS requests additional

data or a different route (e.g., one of the Moapa routes) is selected as the proposed action. This would require additional tortoise surveys. The formal consultation period is 135 days. If all of these tasks are done timely, the biological opinion should be out just after the comment period closes on the FEIS. The timing for BLM's ROD should work out well. Ed Tilzey agreed that the timing should work out OK.

Jerry Wickstrom stated that the FWS has requested that a BA been done for Stateline RMP. SWIP and RMP need to be consistent.

Jim reiterated that the Plan Amendment would likely amend MFP since it seems probable that the SWIP DEIS and FEIS review would far precede the Stateline RMP. Jerry Wickstrom stated that the Biological Assessment on the Stateline RMP is expected with the draft RMP in June.

Biological Assessment for SWIP is expected to be submitted in September 1992.

Several agency members of the committee were interested in how their comments had been handled for the first PDEIS.

Dave Vandenberg had three comments: the crossing of the line near Contact, how communication sites had been handled, and how the 2000 feet line separation was handled.

Dames & Moore will add narrative to specify what lines the 2000' separation would apply (e.g., not on lower voltage lines and not on the crosstie). Ed Tilzey suggested adding some narrative that lines like WPPP could be placed in between SWIP and UNTP. Dave Vandenberg suggested that the 2000' separation be expressed as "proposed". Ed Tilzey and Karl Simonson asked if separation can be specified in terms of centerline to centerline so that ROWs can be overlapped. Ed said that BLM does not grant exclusive ROWs. BLM may want to overlap ROW for pipelines or other uses. Pat Hasenoehrl expressed concerns that the BLM might create conflicts for the SWIP. He said that a minimum of 200' between powerline facilities, centerline to centerline would be needed to avoid the potential problems of towers falling into other lines.

Rod Lee suggested that a one-page project map be added. After some discussion, it was generally agreed that the map would be a color fold-out map in the DEIS. It would also depict the routes, substation sites, and microwave sites.

Rod Lee stated that Chapter 1 and 2 need to clearer. The Purpose & Need has a lot of "fluff" to justify the project. He did not feel that the project description was clear. After having reviewed the latest PDEIS he felt that most of his concerns had been addressed. There was also a general discussion about the abstract nature of an electrical connection as a proposed action. Jim Jensen believes that the route is irrelevant to the proposed action and that the connection of two points is what IPCo is concerned with. He further stated that an electrical project is different from many proposed actions that BLM deals with that are tied to a specific action at a specific location. Rod did not agree. Karl Simonson and Ed Tilzey both feel that the proposed action is the electrical connection.

Jerry Wickstrom suggested that a discussion of MAT should be in Chapter 1. All agreed that this was extremely important as a connected and related action and had not been adequately addressed in the PDEIS. Jerry also suggested focusing more on localized issues (e.g., desert

tortoise and corridors in southern Nevada). He suggested subroute issues in certain areas, Delamar routes (Links 650 & 690) as they relate to WPPP, Moapa alternatives, others (e.g., Contact, Minidoka, etc.).

ACTION ITEMS

1. Additional discussion on MAT needed in Chapter 2 (p.50).

2. Butch Peugh and Karl Simonson will make sure that all comments are addressed in camera-ready DEIS.

3. Greg Gault will send Dave Vandenberg a color copy of Visual Resources map for Contact area.

4. Mail a copy of PDEIS to:
   Ken Esplin
   P.O. 986
   Cedar City, UT 84721

5. Jerry Wickstrom - please send Jim Jensen a copy of the Final Clark County HCP for desert tortoise

6. Ed Tilzey will draft a letter of the decisions on the Stateline RMP corridors and decision process relative to SWIP that result from the upcoming meeting with the Nevada State Director.

7. Jim Jensen will send Pat Hasenoehrl a copy the BLM NEPA handbook.

8. Karl Simonson will provide Dames & Moore with the locations of the formal public meetings in the next couple of weeks for inclusion in the next newsletter and the Federal Register Notice of Availability.

   - BLM will provide court reporter/tapes to record comments/testimony
   - D&M to provide PA system and refreshments
   - IPCO to present Purpose & Need
   - D&M to provide maps, graphics, and presentation
   - D&M to set up podium with back to audience

9. Greg Gault will send Jerry Wickstrom information from the technical reports on desert tortoise.

10. D&M will add a portion of Appendix F to Chapter 2 to make better understanding of microwave stations.

ATTENDANCE LIST
10TH SWIP STEERING COMMITTEE MEETING
March 12, 1992

Name	Organization	Phone Number
Charles Holloway	LADWP	(213) 481-4886
Greg Gault	Dames & Moore	(208) 344-6140
Garlyn Bergdale	Dames & Moore	(602) 371-1110
Pat Hasenoehrl	IPCo	(208) 383-2746
Jerry Wickstrom	BLM - Las Vegas District	(702) 647-5113
Ken Esplin	BIA	(801) 586-1121
Rodney Lee	BLM - Richfield District	(801) 896-8221
Toby Rhue	FS - Humboldt NF	(702) 289-3031
Al Hendricks	NPS - Great Basin N.P.	(702) 234-7331
Mike Mann	IPCo.	(208) 383-2770
Karl Simonson	BLM - Burley District	(208) 678-5514
Ed Tilzey	BLM - Reno	(702) 785-6483
Butch Peugh	BLM - Idaho	(208) 384-3076
Ron Sjogren	BLM - Ely District	(702) 289-4865
Dave Vandenberg	BLM - Elko District	(702) 753-0200
Terry Catlin	BLM - Utah State Office	(801) 539-4122
Jacqueline Gratton	BLM - Las Vegas District	(702) 647-5000

APPENDIX C

PUBLIC MEETINGS/COMMENTS

PUBLIC SCOPING MEETINGS

March 27, 1989
Twin Falls, Idaho
Questions/Comments and Answers

1. Q: What environmental impacts have we identified to date?

   A: We cannot address this fully now because the EIS will develop this information during studies.

2. Q: Concern about coal-fired plants and this line tying in with plants that cause environmental damage.

   A: Current generation is 2/3 hydroelectric and 1/3 thermal. The coal-fired plants are already on line. We are not planning any additional thermal plants before 2010. This line will not generate new construction; it is to efficiently utilize existing resources.

3. Q: What are the conservation plans for utilities in this area and also governmental and municipal utilities, etc.?

   A: We filed our plan with the Idaho Public Utilities Commission which covers 1989-2008. It speaks to conservation and identifies it as the least cost resource.

4. Q: Don't you have a corridor (ROW) now from Valmy - Midpoint?

   A: Yes

   Q: Is the existing ROW wide enough?

   A: No

   Q: Wouldn't it be more economical?

   A: Yes

5. C: Comment that favors existing corridor.

6. Q: What is PUC's and FERC's involvement?

   A: PUC has siting authority. FERC regulates transfer. They will be part of the EIS.

7. Q: Are EMF fields additive?

   A: No

8. Q: What do you do about induced voltage in fences, like situation in Utah?

   A: Lines must be grounded.

9. C: I currently live under 345kV line. My son wouldn't have built his house if he had known about the line.

   A: Design criteria minimizes visual and other impacts.

   C: There are now 3 lines.

10. C: EIS should address environmental impacts on our waterways due to additional cogeneration development.

11. Q: Is Salmon Falls Creek wilderness area impacted by western route?

   A: No. Line is on east side.

12. C: Federal agencies have conflicting concerns.

13. Q: If we go to conservation, will we need $200 million line?

   A: We have a $2 billion plant. Every kw that is sold is one less than can be sold to everyone else. Transmission system balances conservation and other resources.

14. C: Please explain the open market bus.

   A: Interconnecting facility where if you have transmission access, you can buy from all other interconnected utilities. Thousand Springs Power Plant may or may not go regardless of this project.

15. Q: Does PUC agree with open market bus?

   A: Yes.

   Q: Will cost of transmission plant go into rate base?

   A: This will be up to PUC.

16. Q: How far east does BPA serve?

    A: Burley and Rupert.

    Q: Can't we use BPA's lines to go to California?

    A: BPA has ultimate control and does not allow firm sales.

17. Q: Will other utilities have access to line?

    A: Yes. This project first surfaced in 1964; no one was ready to take lead. There is tremendous interest and utilities we are interconnected with will probably use the line. We will retain control and capacity to the level we need.

18. Q: Will access be ownership or a transmission services agreement?

    A: It will probably be a mix.

19. Q: Have routes outside of study area been studied?

    A: Yes. This project is being studied in areas of benefit to IPCo.

20. Q: Why can't you combine lines?

    A: In the February cold spell, north-south lines went down.If we had lost Midpoint-Valley, we would have been freezing in the dark.

    We use redundancy (reliability) to keep the lights on.

    We must separate lines geographically and electrically to maintain reliability.

21. Q: What can you do about visual impact and noise from lines due to vibration and electrical effects?

    A: Physical separation between people and lines is only solution.
    Research is continuing on EMF. You can't totally avoid impact.

22. Q: Do these lines go over private and government lands and do people have a say? Will the impact statement address federal lands and private property owners?

    A: Yes, they will address all environmental effects whether it is on Federal or private lands.

NEPA requires consideration of all impacts: Federal, State, and private.

As we go through EIS process, we look at all corridors. In that process, we come back to public to get more input. Dames & Moore will have workshops later on to discuss impacts.

23. Q: Is no action an option?

A: Yes.

PUBLIC SCOPING MEETINGS

March 28, 1989
Wells, Nevada
Questions/Comments and Answers

1. Q: What contacts have been made with Sierra Pacific and Sierra Resources?

   A: We have proceeded with negotiations with Sierra; there is no connection between two. We will connect Thousand Springs if an agreement is reached between IPCo and Sierra.

2. C: Shoshone Tribe has concern about crossing of tribal lands. Power lines through religious sites, hunting, and burial sites are all concerns which should be addressed.

   A: Western Shoshone Treaty - Ruby Valley Treaty - designates tribal lands.

3. C: Confine powerlines into existing corridors.

4. Q: What concerns have been brought up at other meetings?

   A: Health effects. Statistical studies did not develop a cause and effect relationship. Results inconclusive.

5. C: BPA connection. We serve Wells by wheeling power for BPA.

   A: If BPA were to ask for a wheeling agreement on our line, yes, we could provide wheeling off the SWIP.

PUBLIC SCOPING MEETINGS

March 29, 1989
Ely, Nevada
Questions/Comments And Answers

1. Q: Why is Great Basin National Park not shown on visual resources map?

   A: It is shown on Parks map as an exclusion area.

   C: Existing corridor north of park should be eliminated. Views from road are already ruined by one transmission line.

2. C: Comments that National Park should not interfere with progress (transmission lines).

3. C: Try to avoid agricultural lands because of potential conflicts with irrigation and aerial spraying.

4. C: Comments that 2 HV transmission lines are already in their fields and they don't want any more.

5. C: Don't destroy panoramic views.

6. C: Use established corridors.

7. Q: What percentage of route will be on public lands and what percent on private lands?

   A:

8. Q: How close can we come to existing lines?

   A: 200 feet.

9. C: Concern about conflicts with irrigation and aerial spraying.

10. Q: What recourse do private landowners have to prevent lines on their land?

    A:

11. Q: What electrical benefit will this area receive?

    A: Depends on Mt. Wheeler Power and Deseret G&T.

12. C: Mt. Wheeler wants more reliable power. They want access to Northwest Power.

13. Q: How will this affect WPPP?

    A: WPPP is independent. Most utilities will lose surplus in mid 90's. Idaho Power will have surplus until 2000. WPPP will be compatible with this line. WPPP will be compatible with this line. There should be no adverse effects on WPPP.

14. Q: Can mining occur between transmission line towers?

    A: Yes.

15. Q: Are health effects a concern?

    A: Statistical studies have linked magnetic fields to illnesses. No study to date verified a cause and effect relationship linking humans or animals in field and illness.

16. Q: What maintenance will be done?

    A: Air and ground patrol. Since this line is so far from our service territory, we may want to contract with local service people.

17. Q: Explain designated corridors.

    A: BLM identification differs from state to state.

18. Q: Do corridors attempt to avoid houses, communities?

    A: Yes, we identify population centers and stay away. We will fly the routes and identify any private residences.

19. C: Biological map does not show habitat of Golden Eagles.

PUBLIC SCOPING MEETINGS

March 30, 1989
Delta, Utah
Questions/Comments And Answers

1. Q: West Millard Wildlife Federation concern with impacts on antelope; is it possible to combine facilities?

   A: No, 230kV lines inadequate for our purposes. Also, these lines are owned by Utah Power and Light and IPA.

2. C: Millard County Planning and Zoning requires conditional use permits.

   A: We will meet with commissioners in the coming weeks.

   C: Suggestion was made that we include Planning and Zoning in meeting.

3. Q: Where will labor come from?

   A: National construction companies use a mix of their own employees and local employees.

4. C: Stay close to highways or existing corridors.

5. Q: Can't we follow existing 230kV routes?

   A: Yes.

6. Q: How will project relate to UNTP to Las Vegas to Ely to Delta system?

   A: There is a conflict between IPCo and LADWP on the same route. IPCo will take care of the environmental process and LADWP will construct and operate Steptoe-Delta line and IPCo will own a portion.

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SWIP
PUBLIC SCOPING MEETING
TWIN FALLS, ID

Date: March 27, 1989

1. Name Vernon Ravenscroft — Phone 345-2670
   Address 1843 Broadway - Boise — Zip Code 83706
2. Name Bud Teacy — Phone 645-2211
   Address Malta, Idaho — Zip Code 83342
3. Name D L BARBER — Phone 322-2080
   Address Box 70 Boise, ID — Zip Code 83707
4. Name TOM FLEMING - BPA — Phone (208) 334-9137
   Address 550 W Fort Street #35 Boise — Zip Code 83724
5. Name Harold Brown — Phone 886 2206
   Address Shoshone BLM — Zip Code 83352
6. Name Geo. P Nuir — Phone
   Address No Affiliation — Zip Code
7. Name Steve Dondero — Phone (702) 738-4071
   Address BLM P.O. Box 831 ELKO, NV — Zip Code 89801
8. Name John Phillips — Phone (702) 738-4071
   Address BLM P.O. Box 831 ELKO, NV. — Zip Code 89801
9. Name Don Oman, Sawtooth Nat. For. — Phone 737-3200
   Address 2647 Kimberly Rd. E, TF. 83301 — Zip Code 83301
10. Name Bob [illegible] — Phone 733-0401
    Address. 176 Jackson Ave E — Zip Code 83301

SWIP
PUBLIC SCOPING MEETING
TWIN FALLS, ID

Date: March 27, 1989

1.	Name MIKE TAKAC	Phone	734-8143
	Address 1740 AVENIDA CIR TW. FALLS, ID	Zip Code	83301
2.	Name Tom Fawell	Phone	334-2469
	Address Idaho P&C (Statehouse)	Zip Code	83720
3.	Name Glen Rose	Phone	487-2629
	Address Richfield ID	Zip Code	83349
4.	Name Glenn Shewmaker	Phone (208)	423-4600
	Address For: Salmon River Cattleman's Assn. R+2, 3615 N 3600 E	Zip Code	83344
5.	Name Jones Corp.	Phone	655-4219
	Address RT 1 Box 4681 TF, Idaho	Zip Code	83301
6.	Name Jack Claiborne Jr.	Phone	423-5114
	Address 3752 N. 3600 E Kimberly, ID	Zip Code	83341
7.	Name Ed Mink (KTFI)	Phone	733-1581
	Address Hwy 30 TF	Zip Code	83303
8.	Name Bob Burke	Phone	536-2219
	Address Box 298 Wendell, ID	Zip Code	83355
9.	Name Joe Palmer	Phone	423-4269
	Address 3996 E 3000 N	Zip Code	83334
10.	Name BARRY WEBSTER	Phone	801 777 7557
	Address US Air Force	Zip Code	84056

6501/801
HILL AFB UT

SWIP
PUBLIC SCOPING MEETING
~~WELLS, NV~~
TWIN FALLS ID
Date: March 28, 1989

1.	Name: ED TRAINOR	Phone: 801 777-5421	
	Address: 388TH TACTICAL FIGHTER WING / DOO HILL AFB. UT	Zip Code: 84056	
2.	Name: Bill Chisholm	Phone: 547-4418	
	Address: RT #3 Box 431-Buhl	Zip Code: 83316	
3.	Name: Kathy Sursely	Phone: 543-4418	
	Address: RT 3 Box 431 Buhl	Zip Code: 83316	
4.	Name: Ted Smith	Phone: 7344334	
	Address: 136 Rose No.	Zip Code: 83301	
5.	Name: Jim and Cindy Bitzenburg	Phone: 733-3028	
	Address: Rt. 2 Twin Falls	Zip Code: 83301	
6.	Name: Arthur Evans	Phone: 825-5612	
	Address: 1470 E 1100 S. Ebin	Zip Code: 83325	
7.	Name: NS. NOKKENTVED - TIMES-NEWS	Phone: [redacted]733-0931	
	Address: PO BOX 548 TWIN FALLS ID	Zip Code: 83303-0548	
8.	Name:	Phone:	
	Address:	Zip Code:	
9.	Name:	Phone:	
	Address:	Zip Code:	
10.	Name:	Phone:	
	Address:	Zip Code:	

30 sign-in

42 total

SWIP
PUBLIC SCOPING MEETING
TWIN FALLS, ID

Date: March 27, 1989

1. Name Leon M Kay Phone 733 8466
   Address Rt. 3 Box 6889 TF Zip Code 83301
2. Name George Clawson Phone 733-8099
   Address Box 6639 Rte 3 TF Zip Code 83301
3. Name _____ Phone _____
   Address _____ Zip Code _____
4. Name _____ Phone _____
   Address _____ Zip Code _____
5. Name _____ Phone _____
   Address _____ Zip Code _____
6. Name _____ Phone _____
   Address _____ Zip Code _____
7. Name _____ Phone _____
   Address _____ Zip Code _____
8. Name _____ Phone _____
   Address _____ Zip Code _____
9. Name _____ Phone _____
   Address _____ Zip Code _____
10. Name _____ Phone _____
    Address _____ Zip Code _____

SWIP
PUBLIC SCOPING MEETING
WELLS, NV

Date: March 28, 1989

1. Name Ron Chase Phone (213) 471-3535
   Address PO Box 111 Room 1121 Los Angeles, Ca Zip Code 90051
2. Name Jim Bridgeland Phone 702 289 4874
   Address PO Box 10100 Reno NV 89520 Zip Code
3. Name Corbin Harney Phone
   Address Battle Mt Nev. Zip Code 89820
4. Name Roland A. Brady Phone
   Address Owyhee Nev Box 368 Zip Code 89832
5. Name Mary Wright Phone 702 738 8556
   Address Mary River Ranch, Wells Zip Code 89833
6. Name Lonnie Abbott Phone (702) 752-3328
   Address Wells, Nv. Zip Code 89835
7. Name Wood & Ola Lee Parrish Phone
   Address Box 44 Wells NV 89835 Zip Code
8. Name Mr. Manuel Dermody Phone
   Address Box 187 Wells NV 89835 Zip Code
9. Name Burt & Jean Leonard Phone 752-3180
   Address Box 852 Wells NV 89835 Zip Code
10. Name [illegible] Phone 752-3705
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SWIP
PUBLIC SCOPING MEETING
WELLS, NV

Date: March 28, 1989

1. Name Bob Wright — Phone _____
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2. Name Buddy Welsh (WREC) — Phone 702-752-3328
   Address Box 365 Wells, NV ~~89835~~ — Zip Code 89835
3. Name Mont E. Lewis Sr. — Phone 752-3357
   Address Box 278 Wells — Zip Code 89835
4. Name _____ — Phone _____
   Address _____ — Zip Code _____
5. Name _____ — Phone _____
   Address _____ — Zip Code _____
6. Name _____ — Phone _____
   Address _____ — Zip Code _____
7. Name _____ — Phone _____
   Address _____ — Zip Code _____
8. Name _____ — Phone _____
   Address _____ — Zip Code _____
9. Name _____ — Phone _____
   Address _____ — Zip Code _____
10. Name _____ — Phone _____
    Address _____ — Zip Code _____

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SWIP
PUBLIC SCOPING MEETING
ELY, NV

Date: March 29, 1989

1.	Name Rod Lee BLM	Phone	801 896 8221
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2.	Name Larry Sip	Phone	801 743-6911
	Address Fillmore, UT BLM	Zip Code	84631
3.	Name Ron Sjogren BLM	Phone	702 - 289-4865
	Address Ely NV	Zip Code	89301
(4.)	Name Judith Dey	Phone	234-7304
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(5.)	Name Terry Dailey	Phone	702-289-4865
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6.	Name JOE C. MORRIS	Phone	289-6029
	Address BLM P.O. Box 284 ELY, NV.	Zip Code	89301
(7.)	Name GWEN BARTON	Phone	235-7917
	Address McGill - NV 89318	Zip Code	
(8.)	Name Pete Peccio	Phone	2357912
	Address McGill	Zip Code	
(9.)	Name Rod McKenzie	Phone	238-5384
	Address Lund, NV	Zip Code	89317
(10.)	Name Mrs. Gene D. Heckethorn	Phone	702-289-8384
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SWIP
PUBLIC SCOPING MEETING
ELY, NV

Date: March 29, 1989

1. Name WAYNE DUDLEY — Phone 702-289-3487
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2. Name Harvey W Young Jr — Phone 702-289-4473
   Address Box 981 Ely, NV — Zip Code 89301
3. Name [illegible] — Phone 70-289-3787
   Address 935 [illegible] — Zip Code 89301
4. Name [illegible] — Phone 289-5751 Line Runs / 289-2165
   Address P.O. Box 457 FLY-NEV 89301 — Zip Code 89301
5. Name Flora M. Ford — Phone 289-2139
   Address P.O. Box 803 Ely Nv. 89301 — Zip Code
6. Name Randy Lydon — Phone 702-234-7265
   Address Box 5791 Baker, NV — Zip Code 89311
7. Name Tom Bath III — Phone 702-289-3083
   Address Goodwill Ely, Nevada — Zip Code 89301
8. Name Mrs Richard Lee — Phone 702-289-2403
   Address Broad St. E. Ely — Zip Code 89315
9. Name Joe Reese — Phone 235-7240
   Address Box 713 McGill Nv — Zip Code 89318
10. Name Ewing Hill Co. Commissioner — Phone 289-8261 / 435-835-4
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SWIP
PUBLIC SCOPING MEETING
ELY, NV

Date: March 29, 1989

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2.	Name [illegible]	Phone	289-8851 (702)
	Address Box 457 Ely, Nv.	Zip Code	89301
3.	Name R. HUSKEY	Phone	289-8514
	Address 767 MURRAY	Zip Code	89301
4.	Name Col J Baker	Phone	
	Address PO Box 63 Baker Nev	Zip Code	
5.	Name Mark Gibson	Phone	
	Address Great Basin National Park Baker, Nevada 89311	Zip Code	
6.	Name William Glantz	Phone	
	Address L.A.DWP P.O. Box 111 Rm 1121 Los Angeles, CA 90051	Zip Code	
7.	Name	Phone	
	Address	Zip Code	
8.	Name	Phone	
	Address	Zip Code	
9.	Name	Phone	
	Address	Zip Code	
10.	Name	Phone	
	Address	Zip Code	

SWIP
PUBLIC SCOPING MEETING
DELTA, UT

Date: March 30, 1989

1. Name Paula Lee — Phone (213) 481-3448
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2. Name Bill Glauz — Phone (213) 481-4340
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3. Name Kendall Nelson - Utah Utilities Ass. — Phone 489-5678
   Address 1115 W. Hwy, Tanglewood, Ut. — Zip Code 84663
4. Name GLEN B WELLS U.P.&L Co — Phone 220-2203
   Address 1407 W. No. Temple SLC Ut. — Zip Code 84140
5. Name KEN BAND — Phone 864-5117
   Address 6 N 700 W DELTA, UT. 84624 — Zip Code 84624
6. Name Norma Clay — Phone 864-3882
   Address 527 E. Topaz Blvd — Zip Code 84624
7. Name Glen Kelly — Phone 864-3641
   Address 36 W 2 N Delta Ut — Zip Code 84624
8. Name Gale Chapman — Phone 857-2349
   Address P.O. Box 98103 Fillmore, Ut. — Zip Code 84638
9. Name Lee Crawford — Phone 864-2250
   Address 372 W Main #1 — Zip Code 84624
10. Name Jerry Reaman — Phone 864-2446
    Address P.O. Box 854 Delta 84624 — Zip Code 84624

SWIP
PUBLIC SCOPING MEETING
DELTA, UT

Date: March 30, 1989

1.	Name Hal D Peterson	Phone	758-2475
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2.	Name Raymond Arp	Phone	864-4522
	Address 433 E 220 N Delta	Zip Code	84624
3.	Name GINO DI FABIO	Phone	(801) 864-4511
	Address RFD 1 Box 824	Zip Code	84624
4.	Name Vance Bishop	Phone	864-4511
	Address IPP-RFD 1 Box 824	Zip Code	84624
5.	Name Lloyd D Nelson	Phone	801 524-6375
	Address PO Box 11606 Salt Lake City, UT	Zip Code	84147
6.	Name Lloyd Greiner	Phone	801 524-6377
	Address PO Box 11606 Salt Lake City UT	Zip Code	84910
7.	Name	Phone	
	Address	Zip Code	
8.	Name	Phone	
	Address	Zip Code	
9.	Name	Phone	
	Address	Zip Code	
10.	Name	Phone	
	Address	Zip Code	

PUBLIC SCOPING MEETINGS

June 26, 1990
Ely, Nevada
Questions/Comments And Answers

1. Q.: Will SWIP replace the WPPP lines projected between Ely and Las Vegas, NV?

   A: The SWIP EIS will not evaluate substituting one line for another. As WPPP moves closer to construction and if another line has already been constructed, any environmental evaluation would consider that issue.

2. Q: Will SWIP interfere with WPPP?

   A: No, IPCo sees a possibility of up to four lines in the WPPP corridor between Ely and Las Vegas.

3. Q: How will the energy get to market from the proposed Harry Allen II Substation site?

   A: Several utilities are looking at the possibility of building lines from Harry Allen II to the existing McCullough Substation.

4. Q: What possibilities are you looking at for substations in the Ely area?

   A: North Steptoe, Robinson Summit, Hercules Gap -- all of which will connect with the proposed crosstie from Ely to Delta, Utah and the existing 230kV line.

5. Q: What is the overall cost of the line; how much power will it carry; and who are the other utilities involved?

   A: The overall cost is $650,700/mile; the line is rated at 1200 MW and once approval for the line is granted, IPCo will actively seek other participants.

6. Q: What about getting the line through Henderson and Sunrise Mountains?

   A: SWIP is not scheduled to run through those areas but IPCo is cooperating with LADWP for some agreement to connect with power going through those areas.

7. Q: Is IPCo lobbying with LADWP for resolution of the Sunrise Mountain Wilderness problem?

   A: Yes.

8. Q: Is the proposed Harry Allen II Substation site and the McCullough Substation a superconducting area?

   A: Yes, superconducting effects are being evaluated.

9. Q: What about electro-magnetic effects?

   A: These effects are being evaluated for SWIP and will be addressed in the draft EIS/PA. Several government agencies (CEPA, Energy etc.) are conducting ongoing studies on health effects, safe-levels of concentration, proximity, and length of exposure. These studies will be part of SWIP's evaluation.

10. Q: Why should the WPPP corridor be further studied when a Record of Decision (ROD) has already been made?

    A: Environmental standards have increased since 1985, when the Record of Decision for WPPP was published. Dames & Moore has been asked to bring WPPP up to current standards for resources.

11. Q: Will the Record of Decision for WPPP be overturned?

    A: It is unlikely, but that ROD may be supplemented.

12. Q: How critical are the size type of poles to the project?

    A: If all depends on the mitigation required to alleviatevisual, terrain, reliability and other problems. Different pole types may be used to meet mitigation requirements.

13. Q: Have you gotten input from the Great Basin National Park?

    A: Yes, representatives from Great Basin and the National Park Service are part of the steering committee for SWIP. They have been involved from the beginning of the project and IPCo is committed to mitigating any of their concerns.

14. Q: What is the economic effect of SWIP on White Pine County?

    A: Studies are still underway. SWIP representatives will be meeting again with White Pine County and will provide an estimate of tax benefit from the project to the County.

15. Q: What size line will go from Ely to Delta?

A: If is projected that line will be the same as SWIP, 500kV.

16. Q: Will the line from Ely to Delta parallel the existing 230kV and won't that affect the vista from Great Basin National Park?

A: One alternative being considered would be parallel to the existing 230kV line and, as said previously, it that alternative were chosen, mitigation would be resolved in cooperation with the Park.

17. Q: Does the line pay revenue to the owners of the land it crosses?

A: Payments do go to owners in a variety of ways. Among those are through easements, private owners agreements, taxes paid to government entities -- the BLM uses an annual rental agreement based on acreage in a right-of-way (ROW).

18. Comment: 98% of White Pine County supports SWIP and its connection to the 230kV line and 2% are looking at it.

19. Q: How much in taxes does White Pine County lose if the Northern Crosstie alternative is chosen?

A: Part of each crosstie alternative, north or south goes through White Pine County. A breakdown on tax and revenues on each alternative will be provided for the White Pine County committee meeting in August.

20. Q: Have you looked at using existing railroad ROWs?

A: Yes, we are examining all existing corridors and ROWs.

21. Q: Are you attempting to consolidate corridor use as required by the National Environmental Policy Act?

A: Yes, we are using such resources as the White Pine County Historical Society and AMTRAK's maps of their rail line -- even unused tracks.

22. Q: Was IPCo initially party to the Ely to Delta crosstie?

A: Yes, the project was initially developed to Delta. That was formerly the Utah Nevada Transmission Project (UNTP)Phase I. UNTP, a consortium of utilities,

changed their Phase I to run from Delta, Utah to the McCullough Substation near Las Vegas, NV. BLM asked IPCo to retain the crosstie for permitting purposes.

23. Q: Will the project completion date remain 1994-95?

A: That completion has been moved back to 1995-96.

PUBLIC SCOPING MEETINGS

June 27, 1990
Caliente, Nevada
Questions/Comments And Answers

1. Comment: There is rough terrain along Alternative #68, Alternative #69 is flatter.

2. Q: Are there any objections to using existing rights-of-way (ROW)?

   A: It is possible to establish adjacent ROWs next to existing ROWs. BLM is ultimate authority to ask Dames & Moore to look at other alternative routes. That is why the WPPP corridor is now being evaluated.

   BLM/Nevada has recognized both Delamar and Evergreen as Wilderness Study Areas (WSA) under interim wilderness guidance. BLM, however, wants to evaluate Alternative #69 that runs near the Evergreen WSA. BLM/Nevada prefers not to withhold the Evergreen area as wilderness, but has to manage it as such until federal action is taken.

3. Q: When will the public be able to see the final versions of Alternatives #68/69?

   A: In the public planning workshops tentatively scheduled for October, 1990.

4. Q: When will an archaeologist from Dames & Moore come to BLM/Caliente and why does Alternative #67 not follow the existing corridor?

   A: Contact has been made by Dames & Moore with BLM/Caliente on archaeology and that person will again be in touch on the WPPP corridor evaluation. We are initially just looking at the WPPP corridor. That corridor followed Alternative #67. We will get further explanation as to why the WPPP corridor did not follow the existing corridor in that instance.

5. Q: What type of power poles are you going to use and what impact will they have visually and to the terrain?

   A: Guyed-lattice towers will be used for the most part. They use less steel and are aesthetically more pleasing because they tend to disappear in the terrain. When using free-standing poles, there are fewer poles, but they are larger and more solid tending not to disappear in the terrain.

6. Q: Will you use different paints on the poles to help them blend in? And what about the conductors?

   A: Yes, our mitigation plan calls for dulling the finish in an acid bath to reduce reflectivity. Conductors do have visual impact. That will be reduced by sand-blasting them to dull their finish also.

7. Comment: Mustangs and big game are more prevalent on Alternative #68, than #69. From Kane Springs to Delamar Valley is a major deer and wildhorse corridor. Gates and fencing should be used also to keep cattle from straying into your chosen alternative route.

8. Q: Will you return the condition of the roads to their previous state after construction of the transmission line?

   A: Many access roads already exist and SWIP will have to maintain a certain number of access roads. The mitigation plan calls for putting roads used back to their original condition.

9. Q: What about Air Force use of Delamar Lake for practice landings. Will the proximity and height of towers affect the Lake's use?

   A: The Air Force will need to evaluate their use vs. our alternatives near the lake to resolve that problem.

10. Q: Will you need to ground your cables between towers?

    A: Grounding is associated with DC lines. There is nothing like that for AC lines - SWIP is an AC line.

11. Q: What is the tax benefit to Lincoln County?

    A: There will be a county by county breakdown in the draft EIS.

12. Q: What will be project effects on desert tortoise and coyote species?

    A: We will be working closely with USDI Fish and Wildlife on mitigation. During construction, we will coordinate with the State for the best "window" or period of time to work without disturbing various species.

13. Comment: Be sure to evaluate impacts on grazing and construction impact on underground water pipelines for grazing.

PUBLIC SCOPING MEETINGS

June 28, 1990
Las Vegas, Nevada
Questions/Comments and Answers

1. Q: Are detailed maps available for review?

   A: For the Twin Falls to Ely to Delta portion, but not for the WPPP corridor portion of the line. Completion of those maps is the next project on the schedule. Las Vegas, BLM should receive those maps in a week. Contact Jerry Wickstrom in the Las Vegas, BLM office. We invite public input to help formulate those maps.

2. Q: Why does SWIP have the "dog-leg" portion of the line in Utah?

   A: The original plan was to connect with the Utah Nevada Transmission Project (UNTP) in Delta, Utah. Now, the power in the UNTP line from Delta to Las Vegas is already sold, so SWIP needs to go directly to Las Vegas from Idaho. BLM asked that Idaho Power Company (IPCo) continue the permitting process for the UNTP segment running between Ely and Delta because that is the only portion of the UNTP system not already permitted.

3. Q: What is the connection between SWIP and the proposed Thousand Springs Power Project (TSPP)?

   A: If TSPP is approved, it will have one unit that needs an intertie to both Delta, Utah and Las Vegas, Nevada. TSPP has released a draft Environmental Impact Statement. BLM has asked SWIP to provide a substation site in Wells, Nevada in case TSPP is approved. SWIP would be able to carry some power for TSPP but not all of it.

4. Q: How is SWIP being financed?

   A: Right now, wholly by IPCo, although if the project is approved, IPCo will seek to sell transmission line space to other utilities.

5. Q: Does IPCo have 1200 MW to transmit if that is what the line capacity will be?

   A: Again, IPCo will be seeking other participants. Right now, it has 2-300 MW to transmit. This amount would increase based on seasonal exchanges.

6. Q: What is the efficiency of transmitting electrical energy 750 miles?

   A: There would be losses no matter what the length and capacity of the line.

7. Q: How late in the spring would energy reserves be sent south on SWIP?

   A: It depends on the height of the water in the reservoir – if it was a good or bad year. In a bad water year, IPCo would look to import power from thermal sources in the Southwest.

8. Comment: Nellis AFB, which controls 30,000 miles of airspace, needs to discuss the height of transmission towers for SWIP.

9. Q: What about SWIP's impact on desert tortoise habitat?

   A: We have contacted the Fish and Wildlife Service about the desert tortoise. We are also working with BLM on the problem and evaluating surveys completed by the Nevada Department of Wildlife.

10. Comment: Consider raptors nesting on the lines -- ravens and other species.

11. Q: Has SWIP considered building the line underground?

   A: Yes, the increased expense is the basic problem. An oil cooling system would also have to be added for underground maintenance.

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SWIP
PUBLIC SCOPING MEETING
ELY, NEVADA

Date: Tuesday, June 26, 1990

1. Name Joe Rescio — Phone
   Address Box 513 McGILL NEV — Zip Code
   Affiliation MT Wheeler Power

2. Name Betty Stanko — Phone
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   Affiliation

3. Name Charles Holloway — Phone
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   Affiliation LADWP

4. Name ERIC FINDON — Phone
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5. Name Rod McKenzie — Phone
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   Affiliation Mt. Wheeler

6. Name Randy Lyden — Phone
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   Affiliation Mt. Wheeler Power

7. Name Peter FORD — Phone
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8. Name L. NOA JENSEN — Phone
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9. Name Brent Eldridge — Phone
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10. Name WAYDE DUDLEY — Phone 289-3487
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    Affiliation SELF

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SWIP
PUBLIC SCOPING MEETING
ELY, NEVADA

Date: Tuesday, June 26, 1990

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3. Name Barry Webster — Phone 801 777 9557
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6. Name Tom Bath — Phone
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7. Name [illegible] — Phone 289-2665
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   Affiliation [illegible] Bellas Homes & Gardens

8. Name — Phone
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9. Name ROBERT J TROMBLEY — Phone (702) 238-5394
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10. Name DAVE TILFORD — Phone 702-289-3038
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    Affiliation DESERT MT. REALTY, INC.

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SWIP
PUBLIC SCOPING MEETING
ELY, NEVADA

Date: Tuesday, June 26, 1990

1. Name Al Hendricks — Phone _____
   Address Great Basin N.P., Baker, NV — Zip Code _____
   Affiliation NPS.

2. Name Betty L. STanko — Phone _____
   Address Box 1397 — Zip Code _____
   Affiliation Concerned citizen

3. Name _____ — Phone _____
   Address _____ — Zip Code _____
   Affiliation _____

4. Name _____ — Phone _____
   Address _____ — Zip Code _____
   Affiliation _____

5. Name _____ — Phone _____
   Address _____ — Zip Code _____
   Affiliation _____

6. Name _____ — Phone _____
   Address _____ — Zip Code _____
   Affiliation _____

7. Name _____ — Phone _____
   Address _____ — Zip Code _____
   Affiliation _____

8. Name _____ — Phone _____
   Address _____ — Zip Code _____
   Affiliation _____

9. Name _____ — Phone _____
   Address _____ — Zip Code _____
   Affiliation _____

10. Name _____ — Phone _____
    Address _____ — Zip Code _____
    Affiliation _____

JUL 0 5 1990

PLEASE PRINT

SWIP
PUBLIC SCOPING MEETING
CALIENTE, NEVADA

Date: Wednesday, June 27, 1990

1. Name Michael Fewell — Phone
   Address P.O. Box 176 Caliente — Zip Code
   Affiliation

2. Name KYLE TEEL — Phone
   Address P.O. BOX 214 CALIENTE — Zip Code 89008
   Affiliation BLM

3. Name [illegible] — Phone
   Address R.R. Box 119 Pioche, 89043 — Zip Code
   Affiliation Lincoln Co. Planning Comm.

4. Name GRETNEL S. DAHL — Phone
   Address BOX 1627 ALAMO NEV — Zip Code
   Affiliation DELAMAR VALLEY CATTLE

5. Name Timothy M. Murphy — Phone
   Address Box 237 Caliente, NV — Zip Code
   Affiliation BLM

6. Name [illegible] — Phone
   Address [illegible] — Zip Code
   Affiliation

7. Name Karl Simonson — Phone
   Address RT 1 BOX 3142 Bunkerville — Zip Code
   Affiliation BLM

8. Name Chuck Holloway — Phone
   Address LADWP — Zip Code
   Affiliation

9. Name JAN PACKWOOD — Phone
   Address P.O. Box 70 BOISE ID — Zip Code
   Affiliation IDAHO POWER

10. Name — Phone
    Address — Zip Code
    Affiliation

PLEASE PRINT

SWIP
PUBLIC SCOPING MEETING
LAS VEGAS, NEVADA

Date: Thursday, June 28, 1990

1. Name Maj. Anthony M. Culp — Phone (702) 652-5711
   Address 4JFWW Stn 5 — Zip Code
   Affiliation USAFTTC NAFB

2. Name RC Lewis — Phone
   Address ~~Bell Telephone Times~~ — Zip Code
   Affiliation Clark City Gem & Mineral Club.

3. Name Arlene C. Southard — Phone
   Address 311 Parkway East — Zip Code
   Affiliation Las Vegas, NV 89106

4. Name TRENT RICKS — Phone
   Address — Zip Code
   Affiliation REVIEW-JOURNAL

5. Name C Mary Garner — Phone
   Address PO Box 98 — Zip Code
   Affiliation Clark C. Gem Club

6. Name Donna J. Paulsen — Phone
   Address 3151 Sand Hills Dr #1155 — Zip Code
   Affiliation LV NV 89120

7. Name Winnifred Belleau — Phone 379-8082
   Address 9340 S Racliff Ave — Zip Code 89123
   Affiliation Krause/Thacker Minerals & Mining

8. Name Lowell Lucas — Phone 565-2089
   Address 340 West St Henderson Nv. — Zip Code 89015
   Affiliation City of Henderson

9. Name Warren Harris — Phone
   Address — Zip Code
   Affiliation L V S L A

10. Name EDISON ELIZEH — Phone 367 5397
    Address P.O. Box 233 SGA 26A — Zip Code 89151
    Affiliation Nevada Power Co.

JUL 0 9 1990

PLEASE PRINT

SWIP
PUBLIC SCOPING MEETING
LAS VEGAS, NEVADA

Date: Thursday, June 28, 1990

1. Name Matt Davis — Phone 702 367-5380
Address P.O. Box 230 — Zip Code 89151
Affiliation Nevada Power Co

2. Name SYDNEY GORDON — Phone 796-7800
Address 4220 S. MARYLAND PKWY #308 — Zip Code
Affiliation DAMES & MOORE 89119

3. Name Mike Burke — Phone 714 433-2800
Address 6 Hubble Centre Dr. #700 Santa Ana — Zip Code 92707
Affiliation Dames & Moore

4. Name Duane Sidwell — Phone (702) 367-5381
Address P.O. Box 230 — Zip Code 89151
Affiliation Nevada Power Co

5. Name Frank Ogila — Phone 871-4085
Address 3215 Mountain Spring Rd — Zip Code 89107
Affiliation Reis Corp

6. Name Kent Downey — Phone (405) 270-2728
Address OKC, OK 73123 — Zip Code 73123
Affiliation Kerr McGee Corp.

7. Name Robert Maichle — Phone (702) 361-3060
Address 4221 W. Alta — Zip Code 89118-5107
Affiliation Motorcycle Racing Assn. of Nevada

8. Name JOHN E. HIATT — Phone 361-1171
Address 8180 PLACID ST. LV. — Zip Code 89123
Affiliation RED ROCK AUDUBON

9. Name walt D Lewis — Phone 642-7475
Address 2507 Mc Cowan N LV, — Zip Code 89030
Affiliation So. Nev. Grotto

10. Name David W. Nielsen — Phone 258-9266
Address 209 Falcon In LV NV — Zip Code 89107
Affiliation So. NV Grotto

JUL 0 9 1990

PLEASE PRINT

SWIP
PUBLIC SCOPING MEETING
LAS VEGAS, NEVADA

Date: Thursday, June 28, 1990

1. Name Frank McRae — Phone 6876004
   Address 727 FAIRVIEW DR CARSON CITY — Zip Code 89701
   Affiliation STATE OF NV

2. Name Kelly Jackson — Phone 687-6022
   Address 727 Fairview — Zip Code 89701
   Affiliation NV NSE

3. Name MARK HAN — Phone 364-2234
   Address 1350 E. FLAMINGO — Zip Code 89119
   Affiliation UNLV

4. Name CHARLES CONNELL — Phone 702 727 5332
   Address STAR RT BOX 26610 PAHRUMP — Zip Code 89041
   Affiliation TOWN BOARD

5. Name William C. STAPP — Phone
   Address 1809 STONEHAVEN DR — Zip Code
   Affiliation SELF LV. NV. 89109

6. Name Roy Dean Rodgers — Phone
   Address Star Rt Box 26610 — Zip Code
   Affiliation Pahrump

7. Name — Phone
   Address — Zip Code
   Affiliation

8. Name — Phone
   Address — Zip Code
   Affiliation

9. Name — Phone
   Address — Zip Code
   Affiliation

10. Name — Phone
    Address — Zip Code
    Affiliation

PUBLIC PLANNING WORKSHOP SUMMARY

Twin Falls, Idaho
January 7, 1991

Total Attendance: 20, including representatives of IPCo, BLM, Jones Corporation, poultry farm, local television, North Side Canal Company, Salmon River, Cattlemen's Association.

Comment Forms Received: 8: 2 resident, 1 business, 1 special interest group, 3 agriculture.

General Comments:

- Use existing corridors unless the visual and environmental impacts are so overwhelming that a different corridor is preferable.
- Concerns about visual impacts, electrical fields, and line problems with crop dusting by air.
- Placement of structures should be on section lines to minimize impact on agricultural lands.
- Avoid placing new corridors in Nevada valleys that are now undeveloped open space.
- Preference for lattice towers.
- meetings re helpful and appreciated.
- Not opposed to any routes assuming adequate ROW compensation and effect on farming practices minimized.
- Concerned with the location of the towers with regards to farm irrigation and the movement of machinery around such a large power facility.
- Wants adequate compensation for nuisance of line on agricultural lands.

Route Preferences/Comments

- Use existing corridor north of the Snake River.
- From Snake River south, minimize impacts to homes and farms and visual impact on Highway 93 traffic.
- Strongly opposed to Link 8-A. (Tom Sharp, Jones Construction)
- Use existing route between Jackpot and Contact.
- Use existing (345) route in Idaho, then south along Highway 93 along existing route to Ely.
- Favors Route A down U.S. 93, but not south of Wells--then follow E.
- Prefers Route F because it has the least impact on individual's farming operation but not opposed to other routes.
- South of Wells, avoid Clover Valley and small lakes east of U.S. 93. Stay out of beautiful basins visible from U.S. 93 wherever feasible.

Route Preferences Recorded on Small Group Maps:

Route	Public Workshop Response		
	No	Yes	
Routes A, B, C, D, E	7	11	Midpoint South to Jackpot
Route F	6	0	Links 61, 62, 64
Routes A, D, E	0	5	Links 100, 110, 130, 160, 161, 162
Routes B, C, F	4	0	Links 91, 92, 140, 142, 144
Link 81	4	0	
Link 83	1	0	

PUBLIC PLANNING WORKSHOP SUMMARY

January 8, 1991
Wells, Nevada

Total Attendance: 3, including representatives of Big Springs Ranch, Nevada Land and Cattle Company, Seven N Cattle Company.

Comment Sheets Received: 2: both businesses

General Comments:

- Very worthwhile project.
- Proximity to and effect on ranch operations and visual impacts.

Route Preferences/Comments:

- Proximity of Route A to homes and associated visual and health concerns; specific concerns are regarding Big Springs Ranch and impact on views to valley and Pilot Peak.
- Prefers A,D, E existing route rather than B, C, E from Jackpot to Winecup Ranch.
- Route B,E would have least impact on operations in the vicinity of Big Springs Ranch.

Route Preferences Recorded on Small Group Maps:

Route	Public Workshop Response		
	No	Yes	
Routes A, C, F	1	0	Links 211, 212
Routes B, E	0	2	Links 221, 222, 224, 226

PUBLIC PLANNING WORKSHOP SUMMARY

February 13, 1991
Ely, Nevada

Total Attendance: 18, including representatives of White Pine Power Project, Mt. Wheeler Power, Inc. Farm Bureau, SCS Board Member.

Comment Sheets Received: 5: 4 residents, 1 agency (White Pine Power Project)

General Comments:

- Tie into WPPP and Gonder Substation
- Prefer substation located in Butter (sp? Butterfield, Butler, or Baker) - comment from Tom Stratchen (note: this comment is unclear to us).

Route Preferences/Comments:

230 Route

- Preferred because it's an existing corridor and therefore more economical with existing access; also believed to be cheaper because it is shorter.
- Preferred because of the existing line; it's easier to maintain.
- Strong concerns about proximity to homes and associated health and property value impacts.

Cutoff Route

- Favors because seems to have less impact on familiar areas.
- Concern about visual impact in valley, but preferred over 230kV

Direct Route

- Prefer targeting military area.
- Favors Delta direct over Southern Route
- Believes problems with military would be a stumbling block.

Southern Route

- Probably less controversial than others.
- Probably costs more because of length.
- Opposed to Southern Route because of length.

Route B

- Believes route would have less construction and sensitive area impacts.
- Opposed to route because of wildlife watering hole at Antone Pass.

Route Preferences Recorded on Small Group Maps:

Route	Public Workshop Response		
	No	Yes	
Delta Direct	11	5	
Cutoff	2	8	
230 Corridor	7	15	
Southern	6	7	
North Steptoe Substation	0	1	
Robinson Summit Substation	0	2	
Route B	2	2	
Routes A, C, D, E, F	1	4	Links 291, 292
Routes A, B,C, D, E, F	2	5	Links 363, 669, 670, 672, 673, 675, 690, 700
Link 674	0	1	

PUBLIC PLANNING WORKSHOP SUMMARY

February 19, 1991
Las Vegas, Nevada

Total Attendance: 9, including representatives of Los Angeles Department of Water & Power, Nevada Power Company, Deseret Generation & Transmission Corporation, Red Rock Audubon Society, Basic Management, Inc. and Citizen Alert.

Since most of the participants were representatives of utilities rather than public interest, the session was conducted as a meeting rather than a workshop. No route preferences were recorded.

Summary of Questions/Comments:

- What is the name of military operations are near the route?
  Why is the military asking that the route be moved further to the east?
- Is the military objecting to the route around Delamar?
- What land uses are considered exclusion areas?
- How many miles would it add to go around Ely?
- Explain concerns about desert tortoise habitat.
- Will the EIS look at the alternative of improved conservation?
- Has the Las Vegas Valley Water District approached you for power?
- Aerojet land exchange provides for a power corridor but states that it must be used within a period of time.

PUBLIC PLANNING WORKSHOP SUMMARY

February 21, 1991
Caliente, Nevada

Total Attendance: 3, including representatives of Lincoln County and Sierra Pacific Power Company.

Comment Sheets Received: none

General Comments:

- Interested in tax revenues to Lincoln County.
- Minimize visual impacts.

Route Preferences/Comments:

Link 675

- Opposed because doesn't want corridor on both sides of valley.

Link 690

- Prefer existing corridors.

Route Preferences Recorded on Small Group Maps:

Route	Public Workshop Response	
	No	Yes
Link 675	0	1
Link 690	0	1

SWIP Public Planning Workshop

Workshop Date_____ Workshop Location_____
Name _____ Phone _____
Address _____

Affiliation: ☐ resident ☐ business _____
☐ agency _____ ☐ special interest group _____
☐ other _____

The purpose of the Public Planning Workshops is to obtain public comments on alternative routes for SWIP. Record specific comments on any or all of the routes on the attached route comment sheets. This packet includes one sheet for each route. Please share your general comments in the space provided below.

General Comments

Mailing List

Would you like to be added to the SWIP mailing list? ☐ yes ☐ no

Do you know of anyone else who would like to receive SWIP information? If so, please print their name(s) and address(es) below?

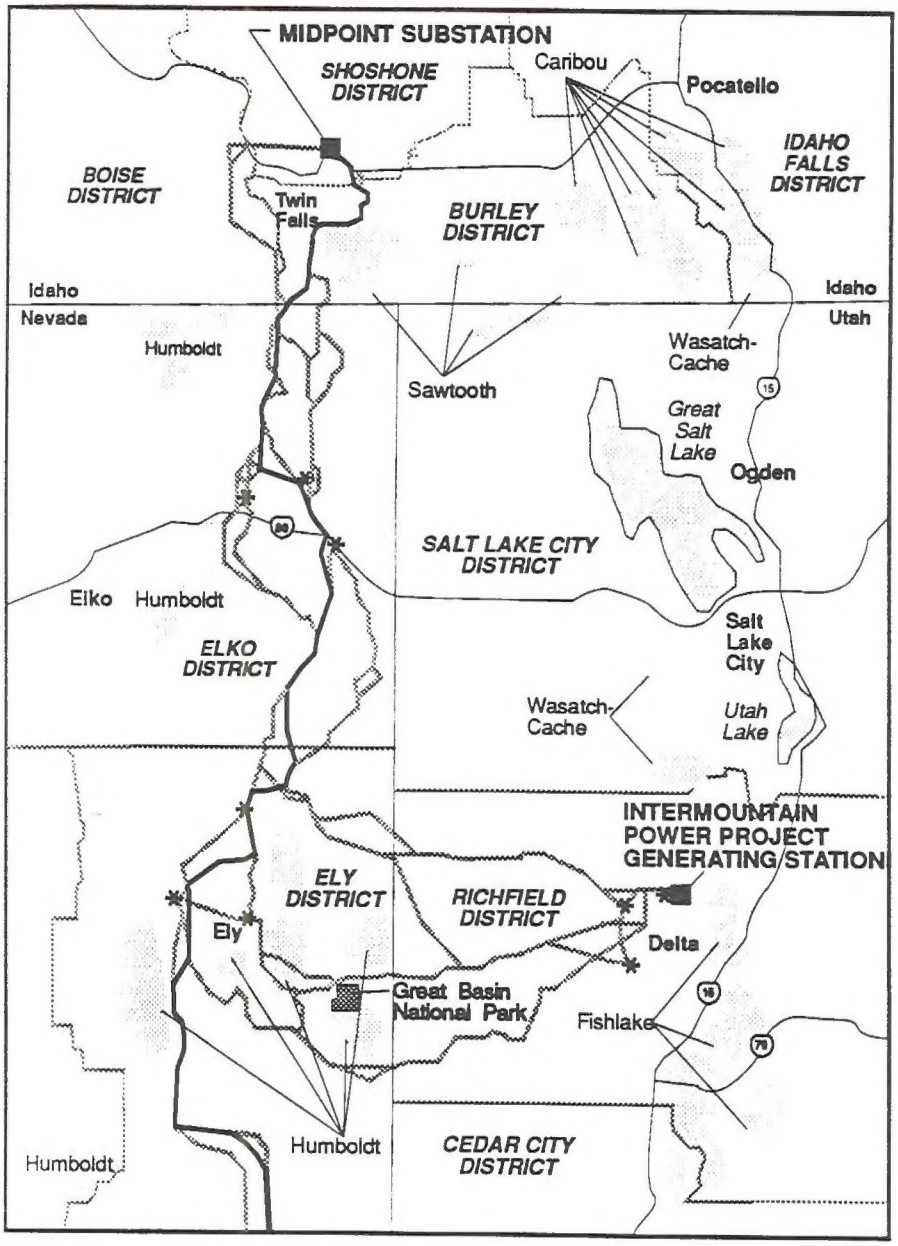
Name _____ Name _____
Address _____ Address _____
_____ _____
Affiliation _____ Affiliation _____

Workshop Suggestions

Was this workshop helpful to you? Is there additional information you would like to have? Please list. _____

Thank you for your comments. For further information on SWIP, please contact:

Jim Jensen, Dames & Moore
Environmental Studies Project Manager
P.O. Box 1601
Boise, Idaho 83701 (208) 344-6140



ROUTE A

N

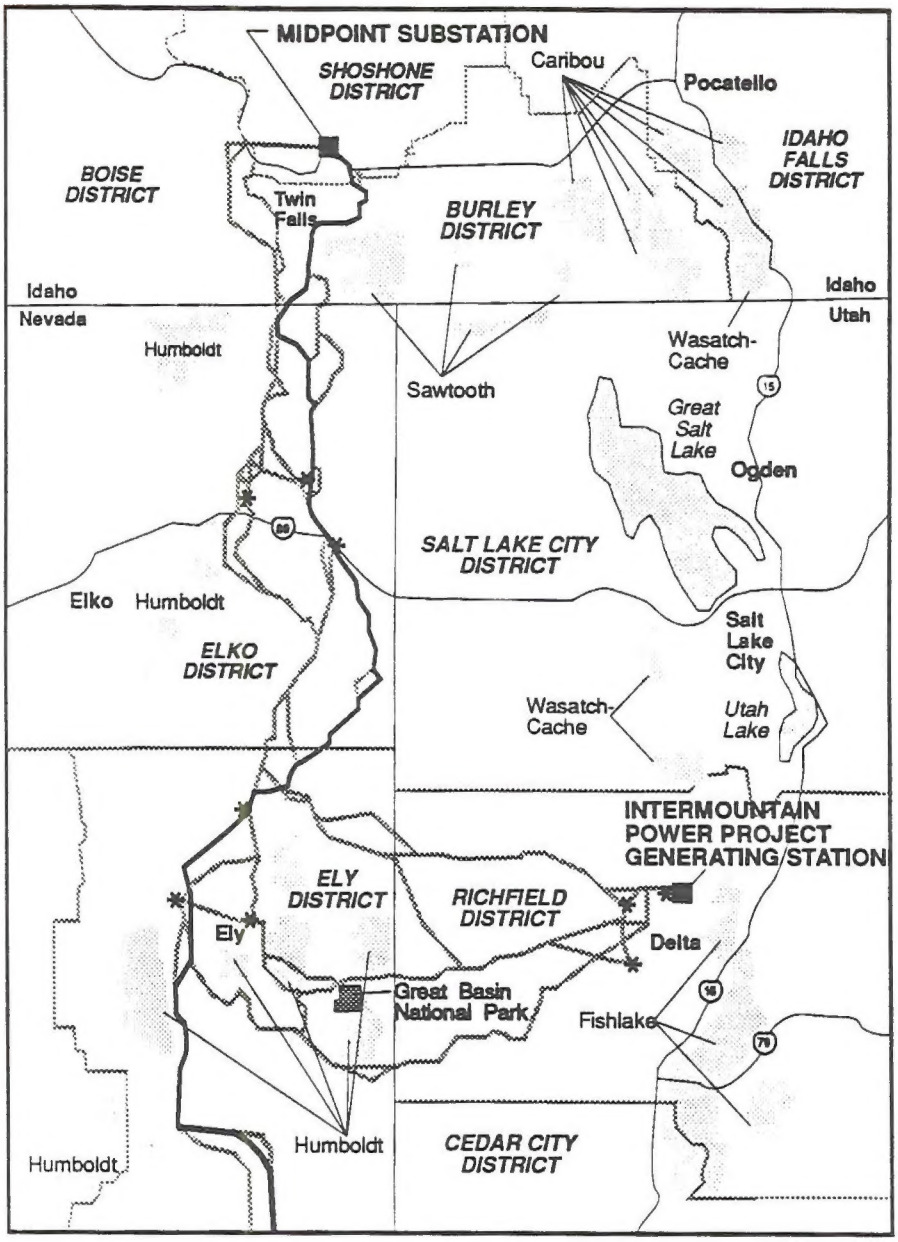
LEGEND

- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- USFS Boundaries
- * Alternative Substation Siting Area

Note: Alternative routes are preliminary, other links not indicted are still being considered in the final decision.

COMMENTS

ALTERNATIVE ROUTES - MIDPOINT TO ELY



ROUTE B

N

LEGEND

- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- USFS Boundaries
- * Alternative Substation Siting Area

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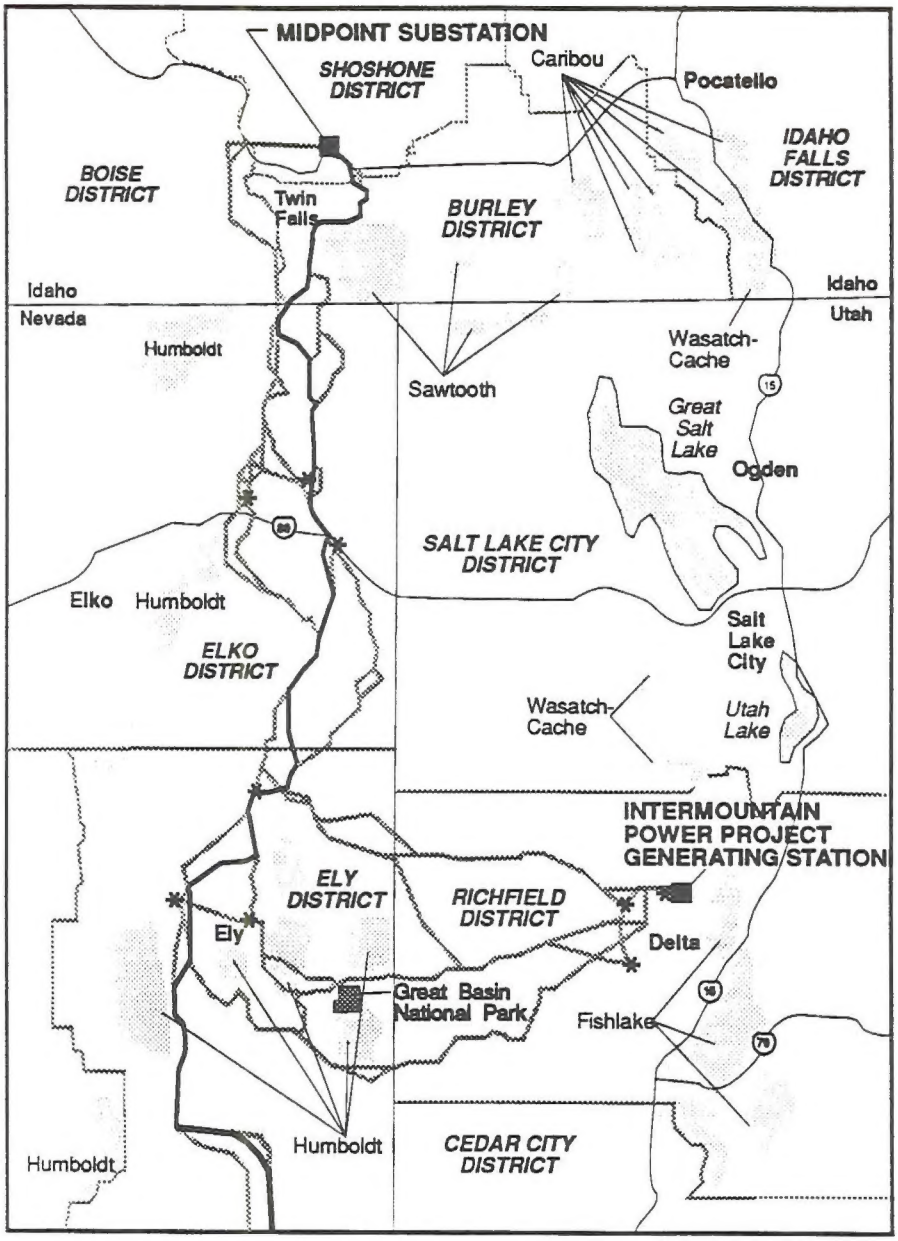
COMMENTS

ALTERNATIVE ROUTES - MIDPOINT TO ELY



ROUTE C

N

LEGEND

- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- USFS Boundaries
- * Alternative Substation Siting Area

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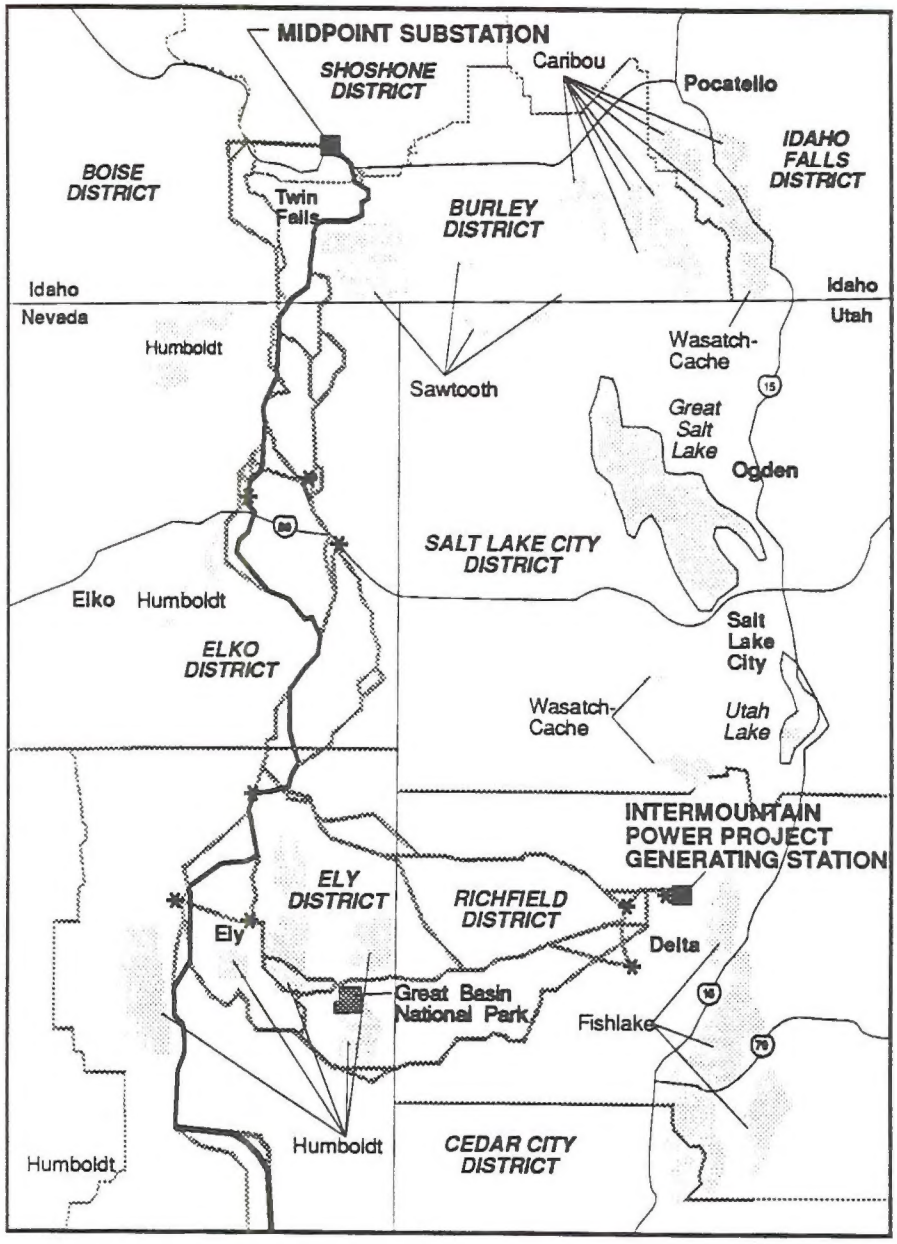
COMMENTS

ALTERNATIVE ROUTES - MIDPOINT TO ELY



ROUTE D

N

LEGEND

- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- USFS Boundaries
- * Alternative Substation Siting Area

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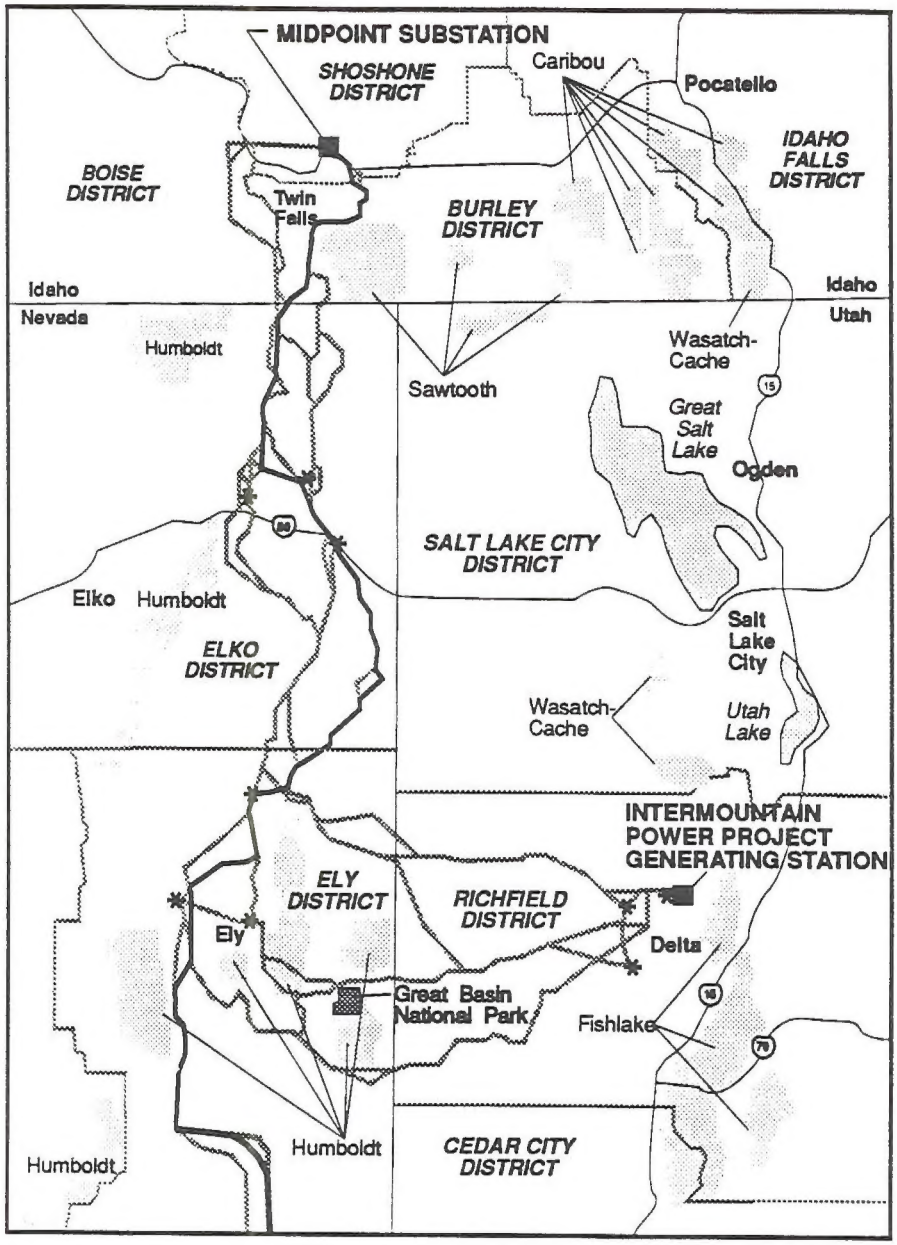
COMMENTS

ALTERNATIVE ROUTES - MIDPOINT TO ELY



ROUTE E

N

LEGEND

- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- USFS Boundaries
- * Alternative Substation Siting Area

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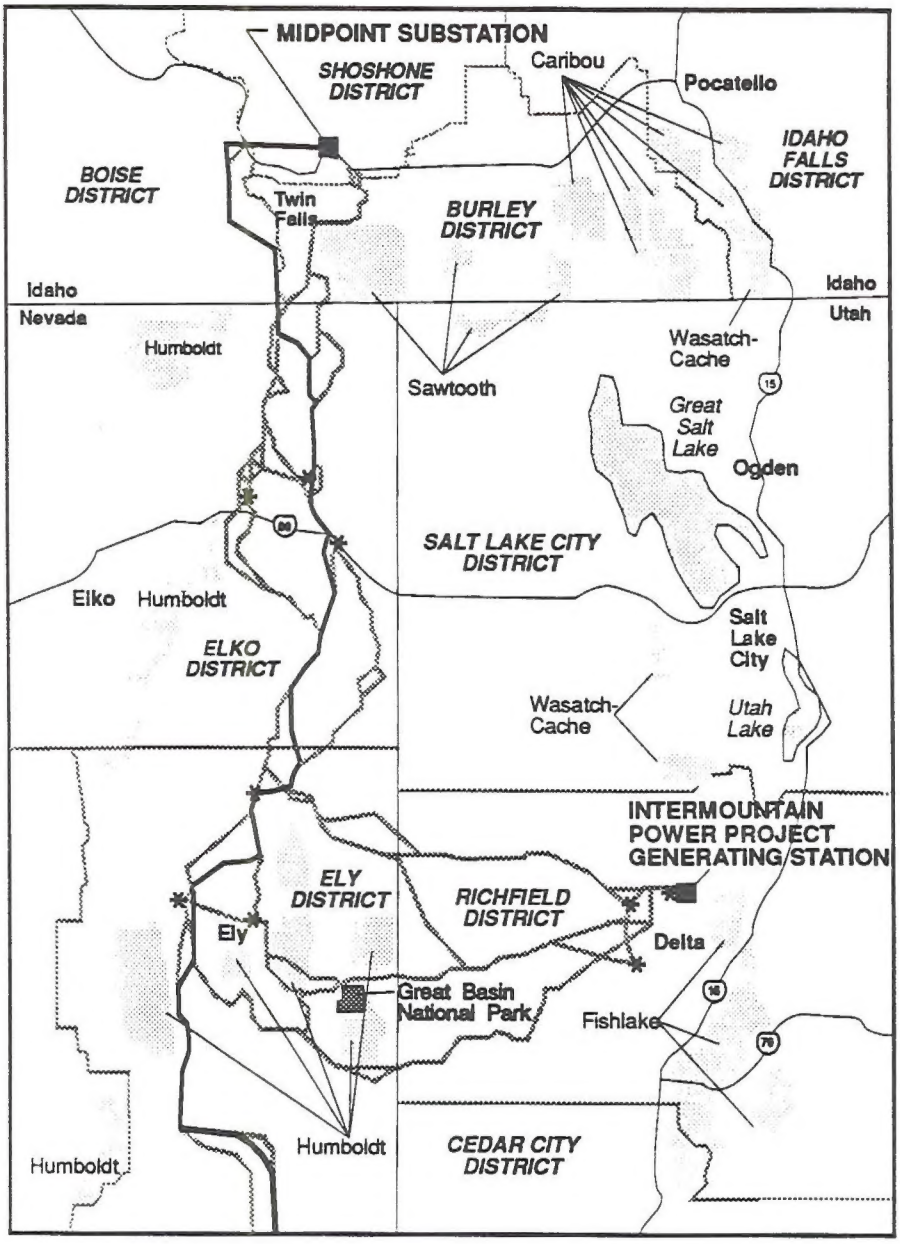
COMMENTS

ALTERNATIVE ROUTES - MIDPOINT TO ELY



ROUTE F

N

LEGEND

- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- USFS Boundaries
- * Alternative Substation Siting Area

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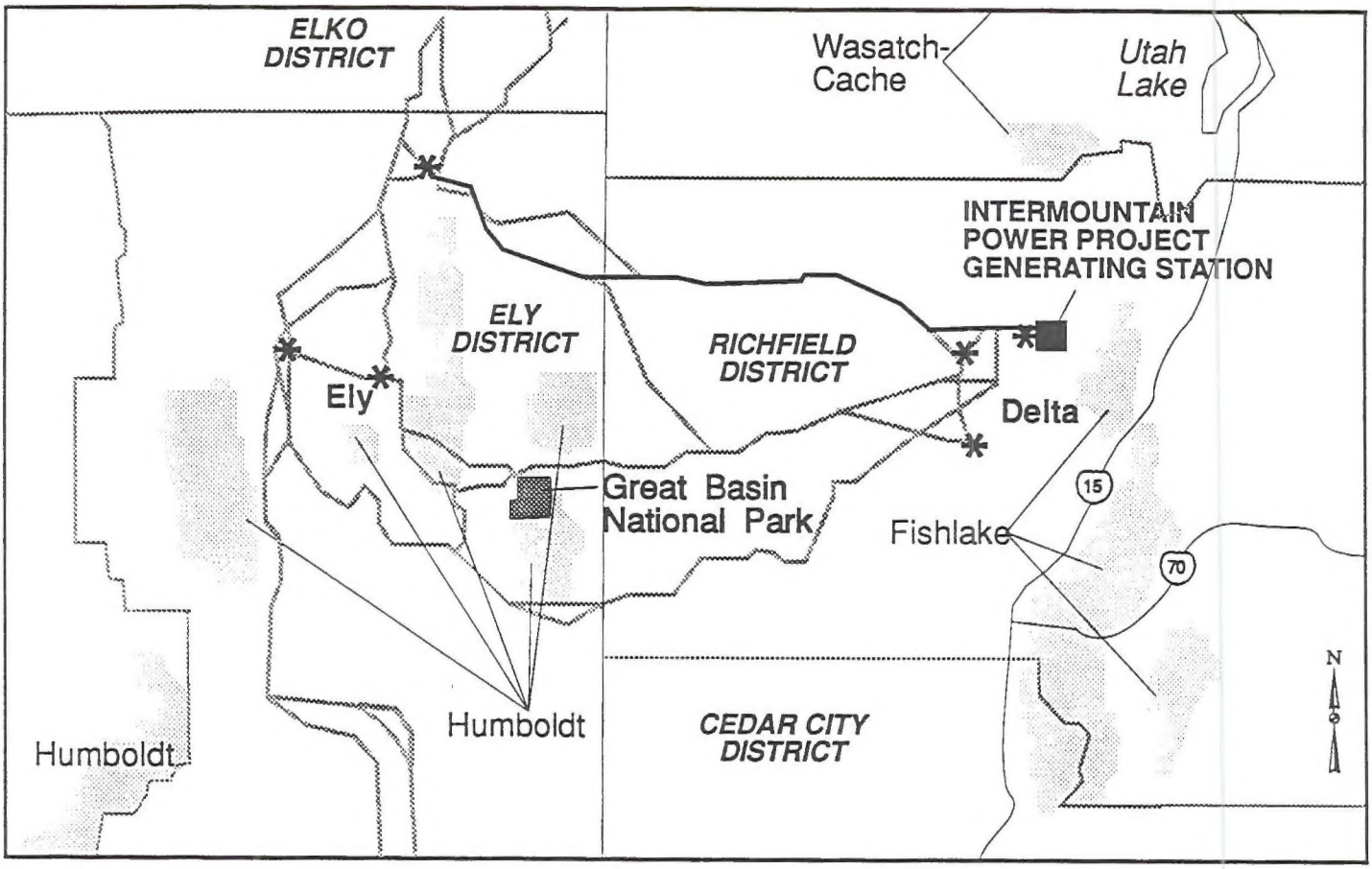
COMMENTS

ALTERNATIVE ROUTES - MIDPOINT TO ELY

Delta Direct Route



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LEGEND

- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- USFS Boundaries
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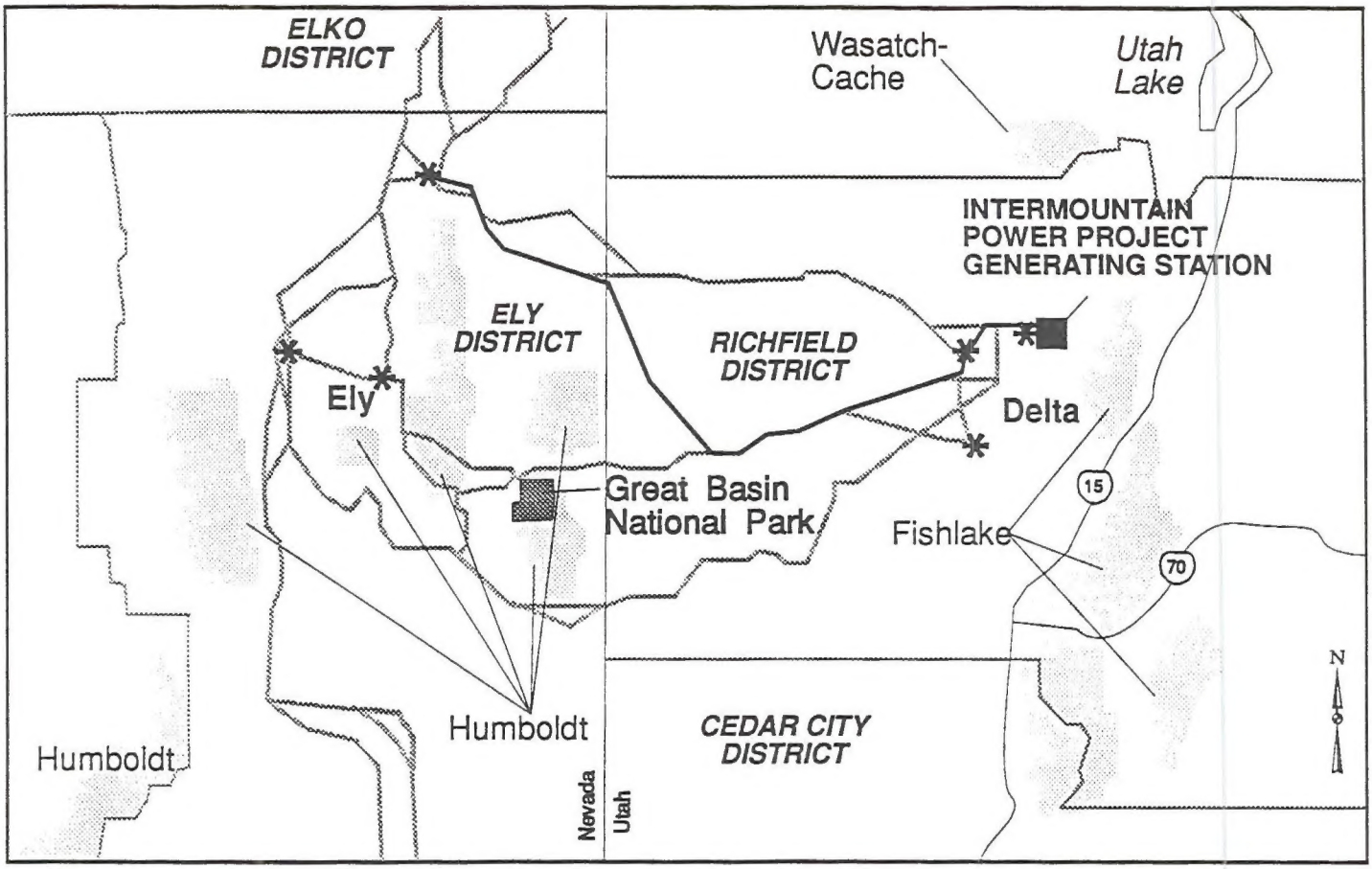
COMMENTS

ALTERNATIVE ROUTES - ELY TO DELTA

Cutoff Route



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LEGEND

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- Alternative Corridors
- BLM District Boundaries
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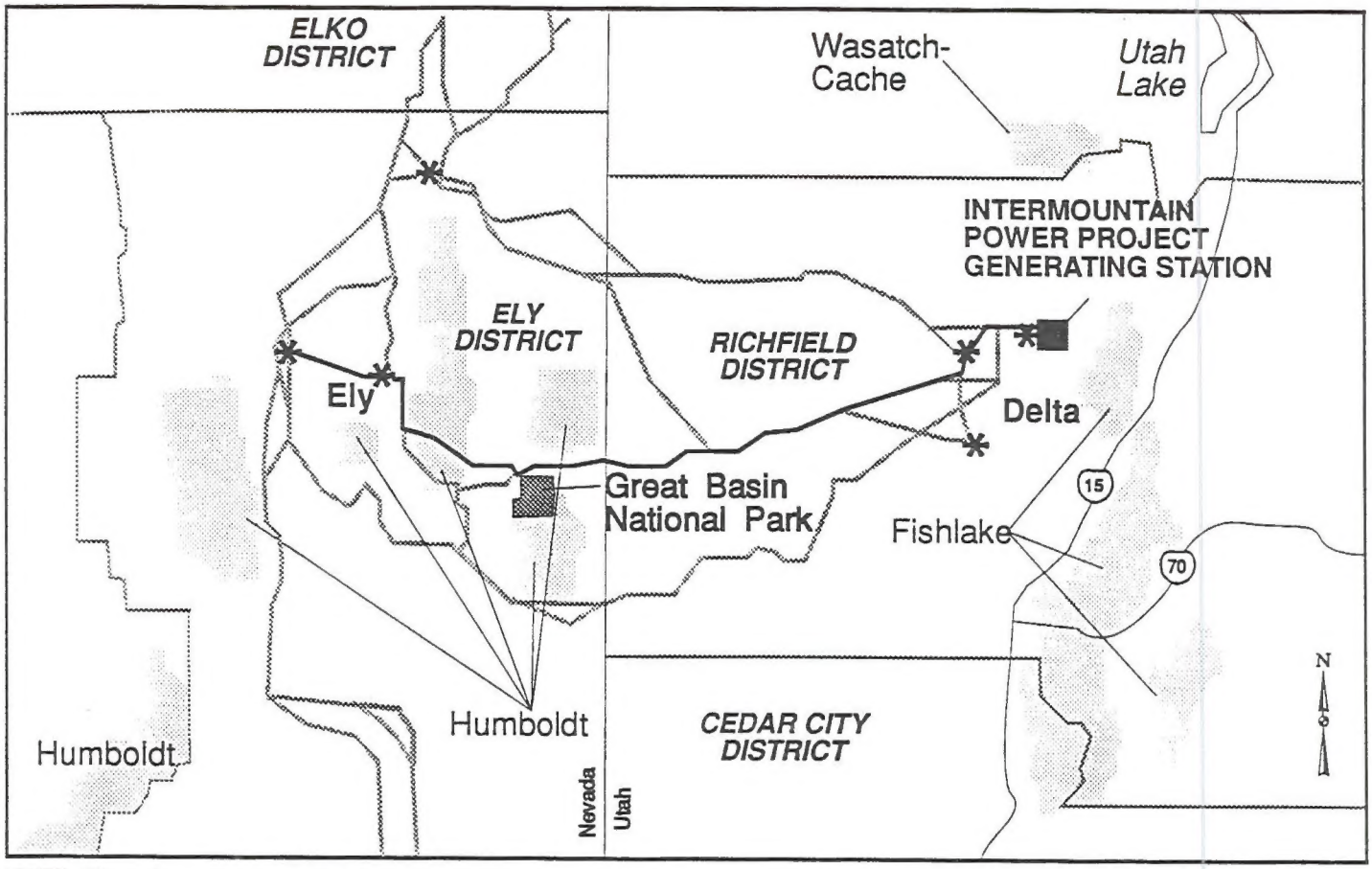
COMMENTS

ALTERNATIVE ROUTES - ELY TO DELTA

230kV Corridor Route



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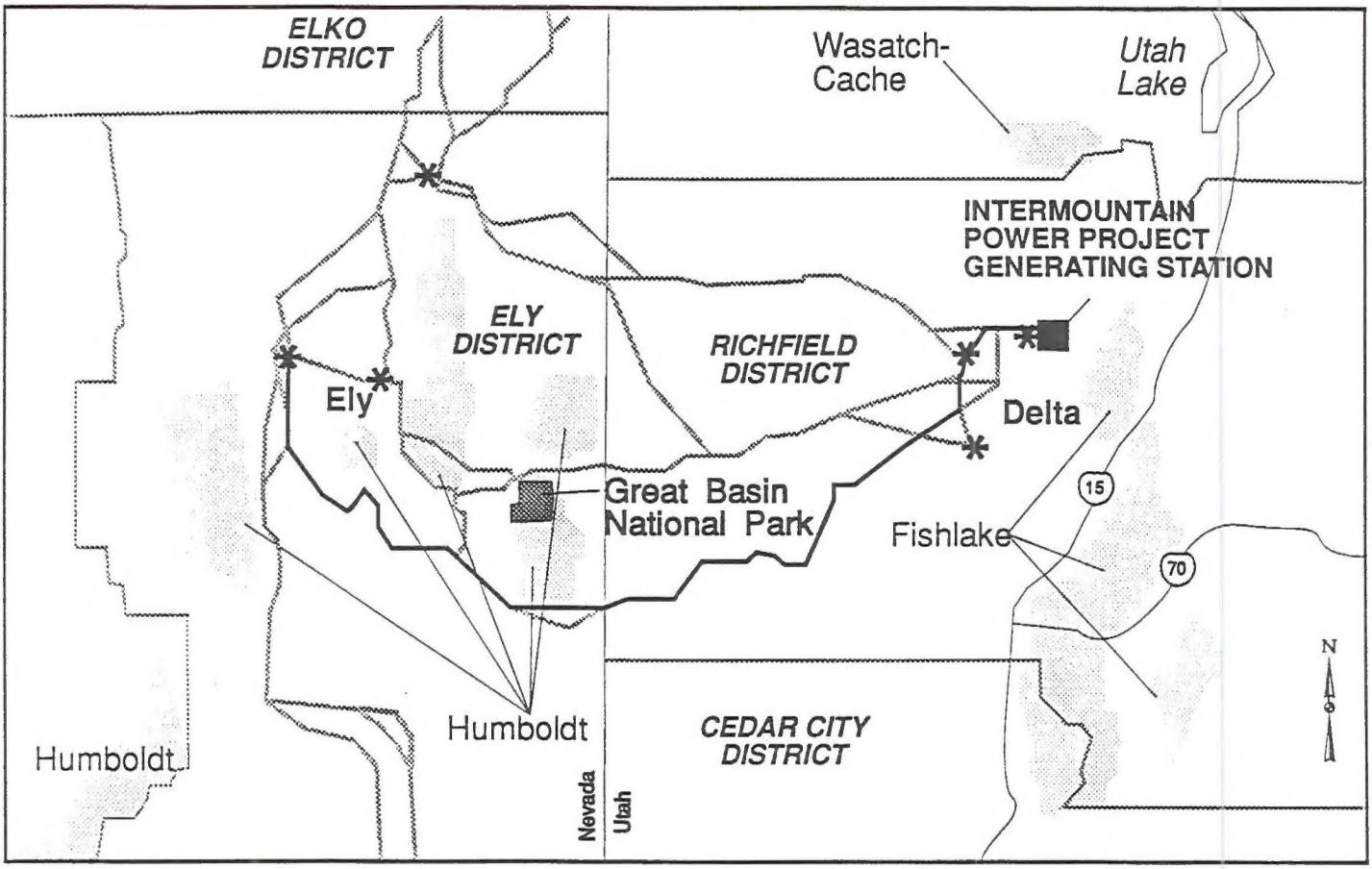
- ALTERNATIVE ROUTE
- Alternative Corridors
- BLM District Boundaries
- USFS Boundaries
- * Alternative Substation Siting Area

COMMENTS

ALTERNATIVE ROUTES - ELY TO DELTA

Southern Route



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- ALTERNATIVE ROUTE
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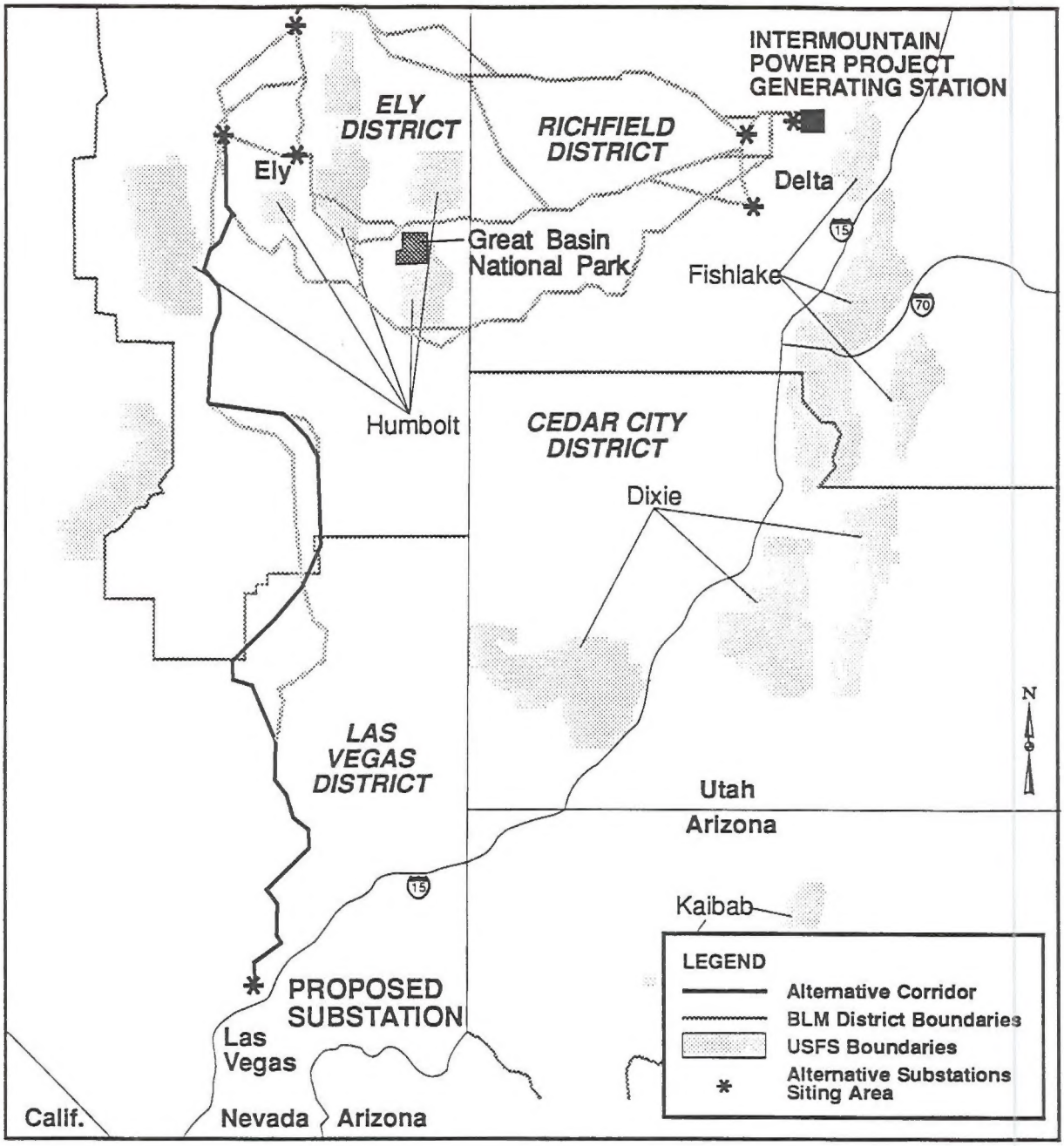
COMMENTS

ALTERNATIVE ROUTES - ELY TO DELTA



COMMENTS

ALTERNATIVE ROUTE - ELY TO LAS VEGAS

SWIP
PUBLIC PLANNING WORKSHOP
TWIN FALLS, IDAHO

Monday, January 7, 1991

(Please Print!)

1. Name: Sid Brewer — Phone: _____
   Address: 711 Wendell St. — Zip Code: _____
   Affiliation: IPCo

2. Name: Warren Kline — Phone: _____
   Address: 368 Casa Grande — Zip Code: _____
   Affiliation: IPCo

3. Name: Harold Brown — Phone: _____
   Address: _____ — Zip Code: _____
   Affiliation: Shoshone BLM

4. Name: Roger O Jones — Phone: _____
   Address: RT1 Twin Falls — Zip Code: _____
   Affiliation: Jones Corp.

5. Name: Ken Jones — Phone: _____
   Address: 1984 Bittenut Dr — Zip Code: _____
   Affiliation: Idaho Power

6. Name: David Bogle — Phone: _____
   Address: Boise — Zip Code: _____
   Affiliation: Idaho Power

7. Name: [illegible] — Phone: _____
   Address: 550 W [illegible] — Zip Code: _____
   Affiliation: Idaho Power

8. Name: Jerry Call — Phone: _____
   Address: [illegible] — Zip Code: _____
   Affiliation: Idaho Power

9. Name: Ted Milesnick — Phone: 678-5514
   Address: Rt. 3, Box 1 Burley, ID — Zip Code: 83318
   Affiliation: BLM

10. Name: Allen Rowe — Phone: 487-2629
    Address: 1221E 1020N Rupert ID — Zip Code: 83349
    Affiliation: Farming Town

SWIP
PUBLIC PLANNING WORKSHOP
TWIN FALLS, IDAHO

Monday, January 7, 1991

(Please Print!)

1. Name: Tom Sharp — Phone: 733-0637
   Address: RT. 1 Filer — Zip Code: 83328
   Affiliation: Farmer

2. Name: J. Thurl Bruns — Phone: 825-5612
   Address: 1470 E. 1100 S. — Zip Code: 83325
   Affiliation: Farmer

3. Name: KIMBERLEY RYAN — Phone: _____
   Address: _____ — Zip Code: _____
   Affiliation: KMVT-TV, TWIN FALLS

4. Name: BOB TAYLOR — Phone: 385-3691
   Address: PO BOX 70 — Zip Code: 208
   Affiliation: IPCO

5. Name: Bob Luntey — Phone: _____
   Address: 4595 River Road Buhl — Zip Code: _____
   Affiliation: None

6. Name: Bill Baker — Phone: 753-0200
   Address: 3900 E Idaho St — Zip Code: 85801
   Affiliation: BLM

7. Name: Steve Dondero — Phone: _____
   Address: 3900 E. Idaho St — Zip Code: _____
   Affiliation: BLM

8. Name: VINCE ALBERDI — Phone: _____
   Address: 864 Chapin Dr. — Zip Code: _____
   Affiliation: NORTH SIDE CANAL CO.

9. Name: DeWitt Marshall — Phone: _____
   Address: 424 E. 100 S. — Zip Code: _____
   Affiliation: Twin, Id. 83338

10. Name: Jack C. Claiborn Jr. — Phone: 423-5114
    Address: 3752 N 3600 E — Zip Code: 83341
    Affiliation: Kimberly Id.

SWIP
PUBLIC PLANNING WORKSHOP
TWIN FALLS, IDAHO

Monday, January 7, 1991

(Please Print!)

1. Name: Lyle Lierman — Phone: _____
   Address: RT2 Filer Id — Zip Code: _____
   Affiliation: Salmon River Cattlemens Assoc

2. Name: Lola R. Clarke — Phone: 423-4257
   Address: 3996 E 3000N Hansen — Zip Code: 83334
   Affiliation: _____

3. Name: _____ — Phone: _____
   Address: _____ — Zip Code: _____
   Affiliation: _____

4. Name: _____ — Phone: _____
   Address: _____ — Zip Code: _____
   Affiliation: _____

5. Name: _____ — Phone: _____
   Address: _____ — Zip Code: _____
   Affiliation: _____

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   Address: _____ — Zip Code: _____
   Affiliation: _____

9. Name: _____ — Phone: _____
   Address: _____ — Zip Code: _____
   Affiliation: _____

10. Name: _____ — Phone: _____
    Address: _____ — Zip Code: _____
    Affiliation: _____

SWIP
PUBLIC PLANNING WORKSHOP
WELLS, NEVADA

Tuesday, January 8, 1991

(Please Print!)

1. Name: DAN Kessler
   Address: BOX 365
   Affiliation: Wells Rural Electric
   Phone: _____
   Zip Code: _____

2. Name: GREG GALBRATTH
   Address: P.O. BOX 10100 Reno NV.
   Affiliation: Sierra Pacific Pwr Co
   Phone: _____
   Zip Code: _____

3. Name: DAVE PORTER
   Address: PO BOX 10100
   Affiliation: SIERRA PACIFIC POWER
   Phone: _____
   Zip Code: _____

4. Name: NANCY BRACKETT
   Address: B.C. Spr. Ranch Oasis. Nev.
   Affiliation: Rancher
   Phone: 478-5119
   Zip Code: 89835

Send past newsletters

5. Name: Rob BARTON
   Address: Big Springs Ranch Oasis NV.
   Affiliation: Nevada Beef Cattle Co.
   Phone: 478-5119
   Zip Code: 89835

6. Name: _____
   Address: _____
   Affiliation: _____
   Phone: _____
   Zip Code: _____

7. Name: _____
   Address: _____
   Affiliation: _____
   Phone: _____
   Zip Code: _____

8. Name: _____
   Address: _____
   Affiliation: _____
   Phone: _____
   Zip Code: _____

9. Name: _____
   Address: _____
   Affiliation: _____
   Phone: _____
   Zip Code: _____

10. Name: _____
    Address: _____
    Affiliation: _____
    Phone: _____
    Zip Code: _____

SWIP
PUBLIC PLANNING WORKSHOP
ELY, NEVADA
WEDNESDAY, FEBRUARY 13, 1991

1. Name: Tom Sonderg. D.V.M Phone: 702-289-3459
   Address: Box 150453 Zip: 89315
   Affiliation: Soil Con- Rep.

2. Name: Gwen Barton Phone: 235-7907
   Address: Box 571 Zip: 89318
   Affiliation: McGill Nv.

3. Name: Pete Pesco Phone: 235792
   Address: McGill Zip: 89318
   Affiliation:

4. Name: Karen Rajala Phone: 289-3065
   Address: PO Box 135 Ely Zip: 89301
   Affiliation: White Pine Power Project

5. Name: Jean Stevens Phone: 238-5466
   Address: STAT 2 Box 11-A Ely Zip: 89301
   Affiliation: White Pine Arch Ass + NHA - Parent Helper

6. Name: Kent Harper Phone: 289-4491
   Address: 655 Aultman St Zip: 89301
   Affiliation: Ely Daily Times

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ELY, NEVADA
WEDNESDAY, FEBRUARY 13, 1991

1. Name: Rod McKenzie Phone: 238-5384
Address: Box 236 Lund, NV Zip: 89317
Affiliation: Mt. Wheeler Power, Inc.

2. Name: John Wheeler Phone: 289-8981
Address: Box 1110 Zip: 89301
Affiliation: Mt. Wheeler Power, Inc.

3. Name: Chuck Holloway Phone: (213) 481-4886
Address: 111 No. Hope St. Rm 1121 Zip:
LA.
Affiliation: LADWP

4. Name: Jo Anne Garrett Phone: 234-7205 or 7209
Address: Box 130, Baker NV Zip: 89311
Affiliation: Baker Advisory Council

5. Name: Walter Cushine Phone: 289-4163
Address: Box 826 Ely, Nev. Zip: 89301
Affiliation: Self

6. Name: Phone:
Address: Zip:
Affiliation:

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ELY, NEVADA
WEDNESDAY, FEBRUARY 13, 1991

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1. Name: Al Hendricks Phone: 234-7331
   Address: Baker, NV Zip: 89311
   Affiliation: Great Basin N.P.

2. Name: _____ Phone: _____
   Address: _____ Zip: _____
   Affiliation: _____

3. Name: _____ Phone: _____
   Address: _____ Zip: _____
   Affiliation: _____

4. Name: _____ Phone: _____
   Address: _____ Zip: _____
   Affiliation: _____

5. Name: _____ Phone: _____
   Address: _____ Zip: _____
   Affiliation: _____

6. Name: _____ Phone: _____
   Address: _____ Zip: _____
   Affiliation: _____

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ELY, NEVADA
WEDNESDAY, FEBRUARY 13, 1991

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1. Name: DENNIS BEE Phone: 702-652-5711
   Address: 57 FWW/DOS NELLIS AFB Zip: 89191
   Affiliation: USAF

2. Name: BARRY WEBSTER Phone: 801 777 9557
   Address: 6501 RS/CX Zip:
   HILL AFB / UT 84056
   Affiliation: USAF

3. Name: GEORGE N. SWALLOW Phone: 289-8851
   Address: P.O. Box 460 Zip: 89301
   Affiliation: EASTERN NEVADA REALTY BD. OF

4. Name: [illegible] Phone: 289-3789
   Address: 935 canyon Zip: 89301
   Affiliation: Forensics w/ underlying powers

5. Name: Joe Bessis Phone: 2357240
   Address: Box 713 Zip: 89318
   Affiliation: WPT Bastrop Power McGill Nevada

6. Name: Darcy Swallow Phone: 289-2665 H.
   Address: Box 457 Ely Zip: 89301
   Affiliation: Mt Wheeler Power BOD

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PUBLIC PLANNING WORKSHOP
DELTA, UTAH
THURSDAY, FEBRUARY 14, 1991

1. Name: Bruce Curtis Phone: 864-3718
Address: 360 N 300 W Zip: 84624
Affiliation: Delta Chamber

2. Name: Gary H. Richins Phone: 801/566-1238
Address: 8722 S 300 W Zip: 84007
Sandy, Utah
Affiliation: Deseret G+T Cooperative

3. Name: Wes Bloomfield Phone: 864-3684
Address: 272 so. Silver Maple Zip: 84624
Affiliation: Delta City Council

4. Name: Terry Reagan Phone: 864-2446
Address: P.O Box 854 Delta Zip: 84624
Affiliation: Millard County Planner

5. Name: Bruce Bonebrake Phone: 586-2455
Address: P.O. Box 606, Cedar City Ut. Zip: 84720
Affiliation: Utah Div. of Wildlife Resources

6. Name: Thomas J. Hamilton Phone: 864-2811
Address: POBox 9998 Zip: 84624
Affiliation: Postmaster

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DELTA, UTAH
THURSDAY, FEBRUARY 14, 1991

1. Name: Art Trujillo Phone: 864-2050
Address: Delta Utah Zip: 84624
145 East Main
Affiliation:

2. Name: Vance Bishop Phone: 864-4511
Address: Delta, Utah Zip: 84624
Affiliation: EPP

3. Name: Vince Crawford Phone:
Address: 372 W Main Zip:
Affiliation: Chamber of Commerce + Economic Dev Association

4. Name: Valerie Mason Phone: 864-2213
Address: Box 7 Zip: 84635
Affiliation: Chamber of Commerce

5. Name: A.B. Johnson Phone: 801-743-5306
Address: P.O. Box 1727, Fillmore Zip: 84631
Affiliation: Utah Wildlife Federation

6. Name: KEN LAST Phone: 864-5117
Address: 393 E 400 S Zip: DELTA-84624
Affiliation: NEWSPAPER

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DELTA, UTAH
THURSDAY, FEBRUARY 14, 1991

---

1. Name: Chuck Small Phone: 801-864-4276

   Address: 1705 1950W Delta Zip: 84624

   Affiliation: Utah Division of Wildlife Resources

2. Name: _____ Phone: _____

   Address: _____ Zip: _____

   Affiliation: _____

3. Name: _____ Phone: _____

   Address: _____ Zip: _____

   Affiliation: _____

4. Name: _____ Phone: _____

   Address: _____ Zip: _____

   Affiliation: _____

5. Name: _____ Phone: _____

   Address: _____ Zip: _____

   Affiliation: _____

6. Name: _____ Phone: _____

   Address: _____ Zip: _____

   Affiliation: _____

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PUBLIC PLANNING WORKSHOP
LAS VEGAS, NEVADA
WEDNESDAY, FEBRUARY 20, 1991

1. Name: Paula Lee Phone: (213) 481-3448
Address: 111 N. Hope St. Rm 1121 Zip: 90012
Affiliation: L.A. Dept of Water & Power

2. Name: ERIC FINDON Phone: (213) 481-3635
Address: _____ Zip: _____
~~Affiliation~~: same as above

3. Name: EDISON G. ELIZEH Phone: (702) 367-5389
Address: P.O. Box 230, STA. 26A Zip: 89151
Affiliation: NEVADA POWER CO.

4. Name: Barry Rushin Phone: 801/566-1238
Address: 8725 300W Sandy Utah Zip: 84092
Affiliation: Desert GT Coop

5. Name: Duane R. Sudweeks Phone: (702) 367-5381
Address: P.O. Box 230 L.V. Zip: 89151
Affiliation: Nevada Power Company

6. Name: Earl Hodge Phone: 458-5891
Address: 3689 Susana St Zip: 89121
Affiliation: Self Send back copies of newsletters.

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PUBLIC PLANNING WORKSHOP
LAS VEGAS, NEVADA
WEDNESDAY, FEBRUARY 20, 1991

---

1. Name: JOHN HIATT Phone: 361-1171
   Address: 8180 PLACID ST. L.V. Zip: 89123
   Affiliation: RED ROCK AUDUBON SOCIETY

2. Name: Richard F. Brown Phone: 565-6485
   Address: P.O. Box 2065 Zip: 89015
   Affiliation: Basic Management, Inc

3. Name: LEONARD LINDENBAUM Phone: (702)253-7806
   Address: 3159 TONYRAM CIR. L.V. Zip: 89102
   Affiliation: RETIRED L.A. WATER & POWER

4. Name: _____ Phone: _____
   Address: _____ Zip: _____
   Affiliation: _____

5. Name: _____ Phone: _____
   Address: _____ Zip: _____
   Affiliation: _____

6. Name: _____ Phone: _____
   Address: _____ Zip: _____
   Affiliation: _____

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PUBLIC PLANNING WORKSHOP
LAS VEGAS, NEVADA
WEDNESDAY, FEBRUARY 20, 1991

1. Name: Chris Brown Phone: 648-8982
Address: P.O. Box 1681 Zip: 89125
Affiliation: Citizen Alert

2. Name: _____ Phone: _____
Address: _____ Zip: _____
Affiliation: _____

3. Name: _____ Phone: _____
Address: _____ Zip: _____
Affiliation: _____

4. Name: _____ Phone: _____
Address: _____ Zip: _____
Affiliation: _____

5. Name: _____ Phone: _____
Address: _____ Zip: _____
Affiliation: _____

6. Name: _____ Phone: _____
Address: _____ Zip: _____
Affiliation: _____

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SWIP
PUBLIC PLANNING WORKSHOP
CALIENTE, NEVADA
THURSDAY, FEBRUARY 21, 1991

1. Name: MIKE MCKNIGHT Phone: 867-3348
Address: 126 ROWAN DR CALIENTE Zip: 89406
4480 SOUTH 4K RD
Affiliation: SPPCo & Caliente Land owner

2. Name: Lenard Smith Phone: 726 3365
Address: Box 443 Caliente Zip: 89008
Affiliation: Lincoln County

3. Name: Maggie Orr Phone: 726-3742
Address: PO Box 145 Zip: 89008
Affiliation: _____

4. Name: _____ Phone: _____
Address: _____ Zip: _____
Affiliation: _____

5. Name: _____ Phone: _____
Address: _____ Zip: _____
Affiliation: _____

6. Name: _____ Phone: _____
Address: _____ Zip: _____
Affiliation: _____

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PUBLIC INFORMATION MEETING
Moapa, Nevada
12/17/91

Public Comments:

- Does Sierra Pacific and Nevada Public Service Commission and Nevada Power Company support the project?
- What does an open access policy/marketplace mean?
- How would the project affect price and reliability of local power?
- How would the project impact the Navajo-McCullough line?
- Is BLM considering a 2-mile wide utility corridor through the Moapa River Indian Reservation?
- Cultural resource & religious site concerns.
- Reservations get picked on.
- Concerns for caves/caving

SWIP
PUBLIC INFORMATION MEETING
MOAPA, NEVADA

Tuesday, December 17, 1991

(Please Print)

1. Name: JACQUELINE GRATTON Phone: (702) 647-5054
   Address: 4765 W. Vegas Dr. Zip Code: 89128
   Affiliation: BLM

2. Name: VERNON Phone: 702-865-2849
   Address: ~~BOX~~ 396 MOAPA NV. Zip Code: 89025
   Affiliation: COUNCIL M.B.P.I.

3. Name: Phone:
   Address: Zip Code:
   Affiliation:

4. Name: Phone:
   Address: Zip Code:
   Affiliation:

5. Name: Phone:
   Address: Zip Code:
   Affiliation:

6. Name: Phone:
   Address: Zip Code:
   Affiliation:

SWIP
PUBLIC INFORMATION MEETING
MOAPA, NEVADA

Tuesday, December 17, 1991

(Please Print)

1. Name: David W. Nielsen Phone: 646-[illegible] 4179
   Address: 1973 N. Nellis #248 Zip Code: 89115
   Affiliation: Southern Nevada Grotto of the NSS.

2. Name: Calvin Meyers Phone: (702) 865-2787
   Address: PO Box 129 Moapa, Nev Zip Code: 89025
   Affiliation: Moapa Band of Paiutes

3. Name: _____ Phone: _____
   Address: _____ Zip Code: _____
   Affiliation: _____

4. Name: _____ Phone: _____
   Address: _____ Zip Code: _____
   Affiliation: _____

5. Name: _____ Phone: _____
   Address: _____ Zip Code: _____
   Affiliation: _____

6. Name: _____ Phone: _____
   Address: _____ Zip Code: _____
   Affiliation: _____

SWIP
PUBLIC INFORMATION MEETING
MOAPA, NEVADA

Tuesday, December 17, 1991

(Please Print)

1. Name: WILLARD G. Pete Phone: 726-7626
   Address: B-482, 243 Cook St Zip Code: 89008
   Affiliation: Retired

2. Name: Ken W. Esplin Phone: (801) 586 1121 Office (801) 586-8521
   Address: 117 Rountree Dr Zip Code: 84720
   Cedar City, Ut.
   Affiliation: B.I.A. So. Paiute field station

3. Name: Tom Smales Phone: 871-6543
   6253 N. Trop. #317
   Address: Las Vegas NV Zip Code: 89103
   Affiliation: Nye County

4. Name: Chuck Holloway Phone:
   Address: 111 No. Hope St Rm 1121 Zip Code:
   LA, CA
   Affiliation: LADWP

5. Name: Larry Sip Phone: 647-5000
   Address: 4756 N Decatur Zip Code: 89126
   Affiliation: BLM

6. Name: Walt Olenick Phone: 642-7475
   Address: 2507 McCarran Zip Code: 89030
   Affiliation: SNG Nilas Vegas

APPENDIX D

ISSUES OF CONCERN

APPENDIX D

Issues of Concern

Written or verbal comments made at the workshops or received in the mail are summarized on the following pages. The comments are organized by issue and resource categories. Questions that should be addressed in future newsletters are also included. A comment is listed only once, regardless of the number of times it was mentioned. Copies of the response sheets and other written comments can be found in the project files.

Project Need/Interconnections

- Rationale for new construction
- Future plans for additional generating facilities
- Long-term demand and need
- Connection with UNTP and IPP
- Select corridor for use by Thousand Springs Power Project (TSPP)
- Concern with reproposal of TSPP
- Bonneville Power connection with Los Angeles Water & Power (LADWP)
- Capacity for additional current in Delta
- Design for interconnection with geothermal resources
- Need for third line from IPP to Gondor
- Relation to/or delay of proposed White Pine Power Project
- Deseret G & T concerns about ties to LADWP, IPP and Gondor Substation
- Amount of electricity to LADWP, Nevada Power, and other utilities
- Mt. Wheeler access to hydroelectric power
- Need for new line from Delta to Ely
- Power transactions utilizing SWIP
- Idaho PUC involvement
- Access to other utilities via ownership or transmission services agreement
- Combine existing lines
- Contacts with Sierra Pacific and Sierra Resources
- Benefit to Ely area
- Construction and ownership of Steptoe Valley lines
- Project will benefit many utilities
- Conservation plans for area utilities and governments
- Wheeling rights with BPA for use with Wells REA
- Lines from Harry Allen II to other Southwest locations
- Proposed land swap in Nevada on Sunrise Mountain
- Impact to North Las Vegas
- Excess energy available at southern endpoint, sources and projections for next 20 years.
- Opposed to cumulative impacts.
- Efficiency of transmitting 750 miles
- Interconnections at Henderson and Sunrise Mountains

Cost/Compensation

- Financing and ownership of SWIP
- Concerns about ROW assessment and acquisition
- Compensation offered for inconvenience is inadequate
- Effect on utility rates in California
- How much will IPCo rates increase to fund projects
- Are rate payers, shareholders, or Wall Street bondholders paying for project?
- Estimated reduction in power cost
- Devaluation of properties
- Impact of cost to present and future electricity users
- Most economical route is best route
- Payments to Nevada or its counties
- Nevada receives power line mileage tax that other utilities pay
- Tax benefits to Lincoln County, Nevada
- Overall cost of the line

Routing Concerns

- Follow highway corridor
- Use existing corridors east of Wells
- Follow Nevada Northern Railway from Cobre to Ely
- Stay along U.S. 50 to Utah border
- Prefers "center" route
- Go through Hamilton, Nevada
- Avoid Clover Valley route north of Wells
- Put line in near Wells, Nevada
- Existing Midpoint to Valmy ROW should be considered
- Follow existing corridors of Trout Creek route
- In Idaho, can route be to east of existing line?
- Don't run lines west of Twin Falls corridor
- Concerned with alternative that crosses just north of Great Basin National Park
- Avoid agricultural land and private property to extent possible
- Alternate #68 is of concern
- Stay in valleys and follow existing corridors
- From Gondor to Delta, follow existing 230kV lines
- Make sure construction is feasible given terrain on specific routes
- Avoid White River Valley
- Placement of microwave stations
- Main routes as proposed seem adequate
- No route will please everyone – some want to stop progress at any cost
- Effects on Nellis Air Force Base, flying safety in Desert Military Operations Area
- Will SWIP corridor follow the recommended routes in the Western

Regional Corridor Study of 5-1-80?

- Is it necessary for SWIP to dogleg into Utah?
- Follow railroad ROWs, AMTRAK
- Look at alternatives through Delamar and East Dry Lake Valley

Land Use/ROW Impacts

- Avoid high country unless all-weather access assured

- Minimize impacts on flight operations
- Impacts on agriculture, conflicts with irrigation and aerial spraying
- Impacts on ranching
- Interference with planned government operations
- Impacts on West Desert Road
- Availability of ROW for grazing
- Effects on cattle grazing
- Coordinate with AT&T regarding buried cables; need AT&T oversight during construction
- Recreation access in ROW
- Give private lands equal priority as federal lands
- Native American ownership of project area according to Ruby Valley Treaty
- Explore alternatives around existing ranchlands
- Prefer siting on public lands
- Impact on mining claims. Can mining occur between towers?
- Avoid residences and communities
- Disturbance of private property by access roads
- BLM Boise District concern for area west of Salmon Falls Creek and west of Snake River
- BLM Salt Lake Division concern for compatibility with Box Elder RMP and Pony Express RMP
- Need for local conditional use permits
- Coordinate with local planning/zoning departments
- Impacts on significant caves and access roads to caves
- Existing ROW should be used from Ely to Las Vegas
- Supports multiple use of the public lands on this project
- Easements and condemnation
- Effect on Indian-claimed lands
- Possible violations of the Treaty of Ruby Valley of 1863
- Return roads and land used to original condition

Visual Impacts

- Avoid off-highway visibility
- Use dark poles
- Don't destroy panoramic views

- Protect views from road and Great Basin National Park
- Can you bury it underground?
- Height and color of poles
- Consider shape and types of power poles for least impact to terrain

Wildlife and Wildlife Habitat Impacts

- Impacts on raptors and other birds
- Impacts on wetlands
- Need for Threatened and Endangered Species study
- Mitigation should include nest structures; need for 2-3 year evaluation of acceptance by raptors
- Impacts on sage grouse, strutting grounds, and wintering area; helicopter surveys should be conducted in January and April
- Impacts to endangered cactus sclerocatus spinosioe located between Wendover and Ely, Nevada
- Impacts on golden eagle habitat
- Impacts on antelope
- Possible effects on stream flows
- Impacts to Desert Tortoise
- Impacts to Coyotes
- Loss of habitat for wildlife
- Impacts on big game and wildhorses, Alternative #68 but not #69
- Kane Springs to Delamar Valley – major deer and wildhorse corridor

Recreational/Wilderness Areas

- Avoid wilderness areas
- Impacts on Great Basin National Park
- Effects on Jarbidge, Ruby Mountains, Badlands, Goshute Mountains
- Do not route through Humboldt Forest directly east of Magill and Ely
- Impacts on access to recreation areas
- Impacts on Salmon Falls Creek wilderness area
- National Parks should not interfere with progress
- Effect on Nevada Wilderness Act or more wilderness land to Nevada
- Impact of new access roads to wilderness and desert
- Impacts on wilderness-related lands, sensitive public land resources
- Delamar/Evergreen WSAs are under Interim Wilderness Guidance

Cultural Resources

- Impacts on cultural resources
- Protect the old transcontinental railroad route
- Effects on archaeological sites and the Emigrant Trail due to increased access

- Effects on relatively untouched landscape
- Avoid Native American territories

Health and Safety/Quality of Life

- Electromagnetic effects
- Proximity to populated areas
- Protect existing houses
- Are EMF effects additive?
- How do you handle induced voltage in fences?
- What can you do about noise from powerlines?
- Health effects on people and livestock
- Human impact should have priority over wildlife
- Transmission lines adversely affect chosen lifestyle
- Safe and healthy proximity for residences, Mill, and offices
- Superconducting arc of Harry Allen II and McCullough Stations

General Environmental Concerns

- Surface and ground water quality impacts
- Hydrologic impacts
- Environmental impact of cool acid rain, CO2, global warming, ash disposal, radioactivity
- Concern for impacts to waterways from additional hydroelectric development
- Beneficial impacts of cogeneration options
- FERC involvement
- Effects of TV and radio transmission
- Adequate coverage of cumulative and institutional impacts, fisheries modeling, mitigation, and compliance and enforceability EIS
- Effects on plants
- Critically endangered plant species in Dry Lake Valley
- Where obtain and how pay for water used in construction?
- Effect on hunting in White River and Dry Lake Valleys
- Ways SWIP will benefit all of us
- Upgraded environmental standards for WPPP corridor

Other Comments

- Opposition to coal-fired power plants
- Support for project
- Thanks for the opportunity to respond
- Opposition to cross-rope suspension towers
- Is "no action" an alternative?
- What maintenance will be necessary?
- Local employment opportunities

- Impact on tourism
- "Excellent graphics!"
- "Attitude of D&M personnel excellent...!"
- Strongly in favor of project
- Fine presentation
- Concerned with opposition from local environmental groups
- Is Idaho Power a good neighbor?
- Economic rewards to Southwest and Nevada
- SWIP route designated by BLM a utility corridor by BLM
- Keep up the great PR work
- Job creation and economic impact
- Economic impacts to Utah
- Energy conservation policies in service areas
- Good newsletters
- Economic effect on White Pine County

APPENDIX E

FACT SHEETS, NEWSLETTERS, AND PROJECT UPDATES

FACT SHEET

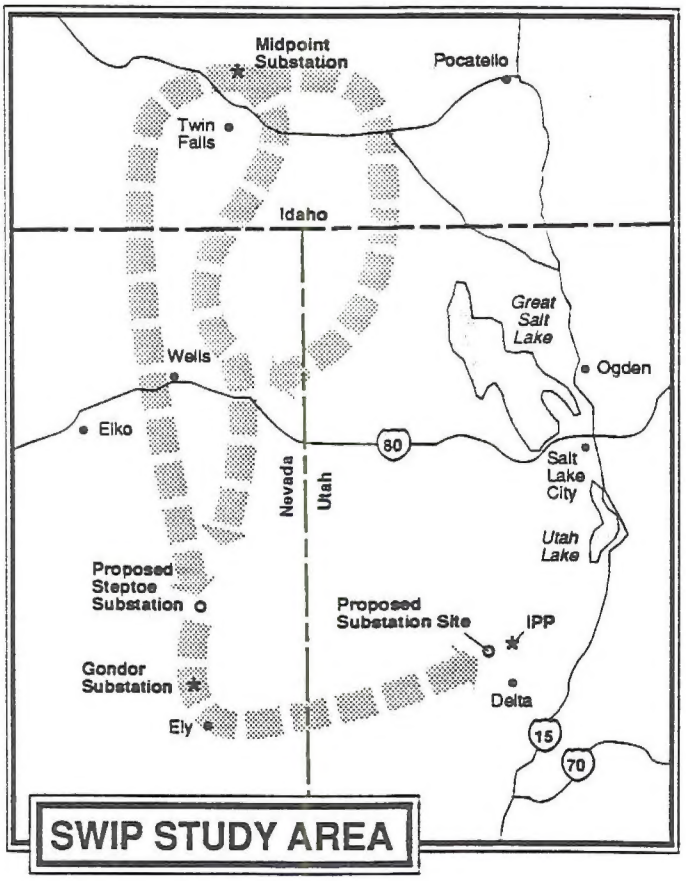
A Publication for the Southwest Intertie Project

March 1989

PROJECT BACKGROUND

The Idaho Power Company (IPC) is planning to construct and operate a new 500 kilovolt (kV) transmission line called the Southwest Intertie Project (SWIP).

The proposed line will extend from IPC's Midpoint Station near Shoshone, Idaho, south to a point near Ely, Nevada, then east toward the Intermountain Power Project (IPP) generating station near Delta, Utah. The map below shows the study area.



PUBLIC SCOPING MEETINGS

The Idaho Power Company and the Bureau of Land Management want to hear your views on the SWIP. Public meetings to discuss the scope of the project will be held in the following areas:

Twin Falls, Idaho
Monday,
March 27, 1989

Wells, Nevada
Tuesday,
March 28, 1989

Ely, Nevada
Wednesday,
March 29, 1989

Delta, Utah
Thursday,
March 30, 1989

For meeting details, refer to page 3.
Please plan on attending the Public Scoping Meeting in your area.

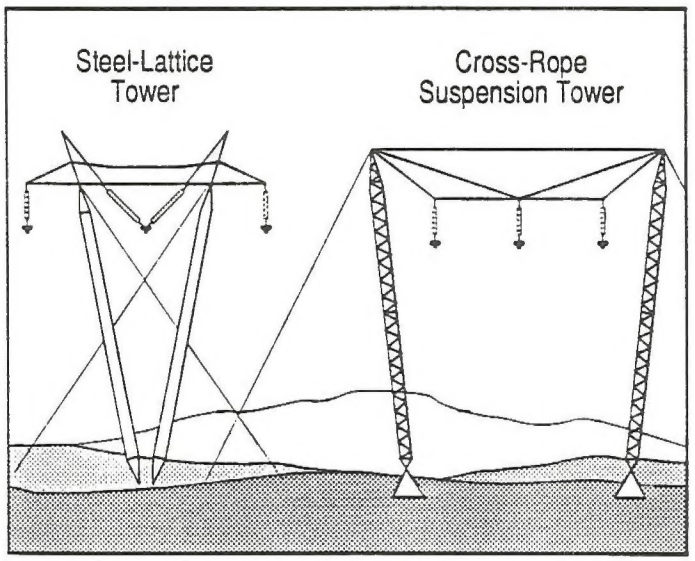
By integrating regional resources and providing power exchanges, SWIP will allow IPC and other users to provide economical energy to customers. SWIP will strengthen the reliability of the transmission system in the western United States.

Preliminary environmental studies of the project are currently being conducted. While these studies are taking place, a public scoping process is being initiated. This fact sheet is the first in a series of public information materials to be sent out to the project mailing list (please refer to the "Response Sheet" insert).

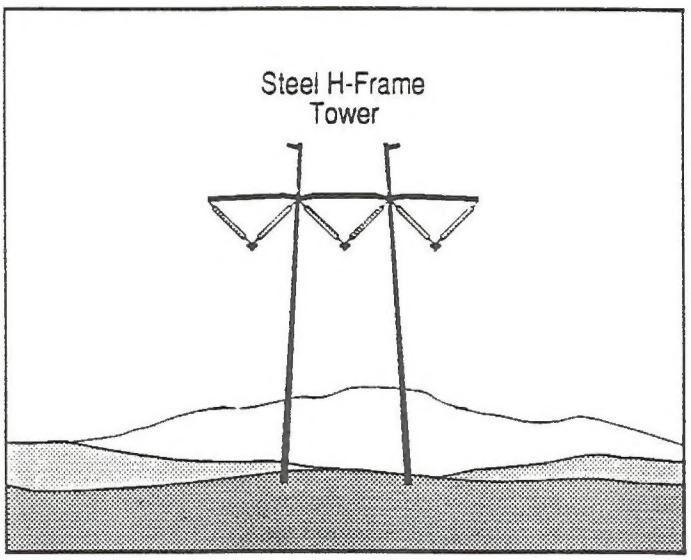
FACT SHEET

PROJECT DESCRIPTION

SWIP is scheduled to be completed and in service in 1993. Most of the transmission line will be constructed using steel-lattice towers stabilized with guy-wires. The two design types being considered for open areas are shown below.



In order to minimize disturbance in agricultural areas, steel pole structures as shown below will be used.



The towers will range in height depending on terrain, but will average between 120 and 130 feet. IPC is requesting a 200-foot-wide right-of-way along the route.

To increase line capacity and control related operations, a new switching station will need to be installed approximately halfway between the Midpoint Station and the connection point near Ely, Nevada. In order to transmit and receive operational data, several microwave relay stations will be necessary along the route.

ENVIRONMENTAL STUDIES

The Bureau of Land Management (BLM), a branch of the U.S. Department of the Interior, has determined that an Environmental Impact Statement (EIS) and Plan Amendment (PA) should be prepared for the project. The BLM will be the lead federal agency overseeing the EIS/PA. The Humboldt National Forest in Nevada and the Bureau of Reclamation in Idaho will be cooperating federal agencies.

Dames & Moore, an international engineering and environmental consulting firm, was selected by the BLM and IPC to prepare the EIS/PA. Dames & Moore has begun regional environmental studies to identify potential transmission line corridors. Thus far, over 1,500 miles of alternative corridors have been identified.

Satellite imagery, digital terrain mapping, and existing literature have been used to obtain data for an area of approximately 60,000 miles. Data on wildlife, vegetation, land use, cultural resources, and visual resources are being studied. Information obtained through these

regional environmental studies and the public scoping process will help the BLM select specific alternatives to evaluate in the EIS/PA.

PUBLIC INVOLVEMENT

In order to hear your views on the project, four Public Scoping Meetings will be held at the following locations:

Twin Falls, Idaho
Monday,
March 27, 1989
7:00 to 9:00 p.m.
Holiday Inn
1350 Blue Lake Blvd.

Wells, Nevada
Tuesday,
March 28, 1989
7:00 to 9:00 p.m.
Wells High School
115 Lake Ave.

Ely, Nevada
Wednesday,
March 29, 1989
7:00 to 9:00 p.m.
Bristlecone
Convention Center
150 6th St.

Delta, Utah
Thursday,
March 30, 1989
7:00 to 9:00 p.m.
City Council
Chambers
76 N. 200 West

These public forums mark the formal start of the EIS/PA preparation. Information gained in the scoping process will form the basis for selecting alternatives and defining the overall scope of the EIS/PA.

Additional public meetings will be held during the project. Announcements for these meetings will be published in the Federal Register and notices will be distributed to area newspapers and radio and television stations. Public information materials will be distributed to the mailing list to provide updates on study results and highlight opportunities for public involvement.

CONTACT LIST

Your input is an integral part of SWIP. Please feel free to direct any project-related questions or comments you have to the following agency contacts:

Karl Simonson
Bureau of Land Management
Burley District Office
Route 3, P.O. Box 1
Burley, Idaho 83318
(208) 678-5514

Jim Jensen
Project Manager
Dames & Moore
P.O. Box 1601
Boise, Idaho
83701-1601
(208) 344-6140

PROJECT SCHEDULE

Milestone project activities and their tentative dates are listed in the schedule below. Please note that this schedule is subject to revision.

Public scoping meetings	March 89
Data collection	April 1989-Aug. 1989
Environmental impact assessment/mitigation planning	Aug. 1989-Sept. 1989
Route selection	Sept. 1989-Nov. 1989
Release of draft EIS/PA	March 1990
Public review	March 1990-June 1990
Public hearings	May 1990-June 1990
Release of final EIS/PA	October 1990
Public review	Oct. 1990-Nov. 1990
Record of decision	January 1991

Jim Jensen,
Project Manager
Dames & Moore
P.O. Box 1601
Boise, ID 83701-1601

Place Stamp Here

FACT SHEET

A Publication for the Southwest Intertie Project

You may be currently receiving material on the Thousand Springs Project. Please note that the information in this fact sheet pertains to the Southwest Intertie Project only.

RESPONSE SHEET

We'd like to hear your views on SWIP. Please take a few minutes to answer the following questions and then return this sheet to us.

1. Would you like to remain on our mailing list and receive future project publications?
   ☐ yes ☐ no

2. Please list your current address and any additional names/addresses you feel should be included on our mailing list:

   Your Name: _____ Name: _____
   Address: _____ Address: _____
   City, State: _____ City, State: _____
   Zip Code: _____ Zip Code: _____

3. Would you like to receive a copy of the Environmental Impact Statement/Plan Amendment?
   ☐ yes ☐ no

4. Would you like to receive other information on SWIP? If so, please describe: _____

5. Please comment on transmission line routing concerns you have regarding this project. _____

6. Please comment on any other aspect of this project. Feel free to send additional comments/ questions to the agency contacts listed on page 3 of the fact sheet. _____

PLEASE FOLD THIS PRE-ADDRESSED ENVELOPE INTO THIRDS AND TAPE OR STAPLE BEFORE MAILING.

Thank you for your comments.

Place
Stamp
Here

Jim Jensen,
Project Manager
Dames & Moore
P.O. Box 1601
Boise, ID. 83701-1601

RESPONSE SHEET

NEWSLETTER

A Publication for the Southwest Intertie Project

EDITION #1

JULY 1989

This newsletter highlights the results of the public and agency scoping process that was recently completed for Idaho Power Company's proposed Southwest Intertie Project (SWIP). Scoping activities were conducted as part of the Bureau of Land Management's (BLM) Environmental Impact Statement (EIS) and resource Plan Amendment (PA) for SWIP. Alternative transmission line corridors have been selected for further evaluation in the EIS/PA and are discussed in this publication.

Background information about SWIP was included in the March 1989 fact sheet. If you have not received a copy of the fact sheet, please contact one of the individuals listed on the back page.

SCOPING PROCESS

A public and agency scoping process was conducted from February through April 1989. As a result of this process, issues and concerns were identified and will be addressed in the BLM's project EIS/PA. Scoping activities included public meetings, a project fact sheet, contacts with agencies involved in the study area, and formation of a Steering Committee.

FACT SHEET

In March 1989, a SWIP fact sheet was distributed to over 1,200 recipients on the project mailing list. A response sheet was included in the fact sheet to elicit public comments on the project. As of June 1989, 124 response forms were returned. The comments that were received are summarized in the section entitled "Key Issues Identified" of this newsletter.

Jim Jensen from Dames & Moore presents route information at the public scoping meeting in Delta, Utah.

PUBLIC SCOPING MEETINGS

The BLM sponsored four public scoping meetings which were held during the last week of March 1989. The locations of these forums were Twin Falls, Idaho; Wells and Ely, Nevada; and Delta, Utah. The total number of attendants at all four meetings was over 85.

Each meeting began with presentations by representatives of Idaho Power Company, the BLM, and Dames & Moore. The presentations addressed project need, the EIS/PA process, background information on the project, results of the initial regional resource studies, potential alternative routes, the study schedule, and opportunities for public involvement.

During the public comment portion of the meetings, concerns and questions raised by the participants were answered and recorded. These issues are summarized in "Key Issues Identified."

STEERING COMMITTEE

In February 1989, a Steering Committee was formed to review SWIP progress and to help direct and coordinate project efforts. The 18 members of this group include BLM personnel from Idaho, Utah, and Nevada and a representative from the Humboldt National Forest. Meetings are conducted at the end of each project task (see "Project Schedule" on the back page).

KEY ISSUES IDENTIFIED

During the scoping process, comments were received through the fact sheet response forms, agency contacts, public scoping meetings, and the Steering Committee meetings. The issues and questions raised relate to the following general topics:

- ❑ Project Need and Interconnections with Other Utilities
- ❑ Cost and Rights-of-Way
- ❑ Land Use Impacts
- ❑ Visual Impacts
- ❑ Wildlife Impacts
- ❑ Quality of Life/Health and Safety
- ❑ Cultural Resources
- ❑ Water and Soil Resources
- ❑ Socioeconomic Impacts

These issues and accompanying responses are discussed in detail on pages 2 and 3. Routing suggestions that were received during scoping are being considered during the planning process.

ALTERNATIVE ROUTES SELECTED

Data obtained through the preliminary environmental studies initially identified over 1,500 miles of potential corridors. These routes were presented to the public during the scoping meetings in March and have been reviewed by the involved agencies.

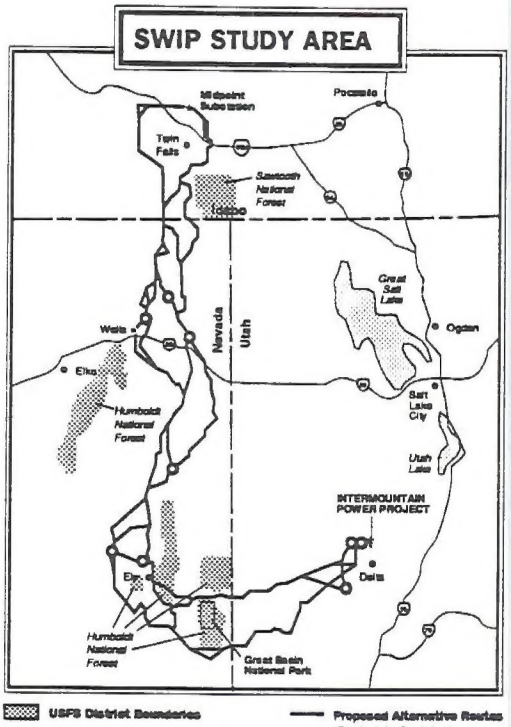
Several of the potential corridors were eliminated during the scoping process because of the magnitude of anticipated environmental impact or electrical system restrictions. Based on information gathered from recent aerial reconnaissance, these alternative routes were further refined. The SWIP study area map illustrates the remaining alternatives to be evaluated in detail in the EIS/PA. Please note that these alternative routes are subject to revisions.

ENVIRONMENTAL INVENTORY BEGINS

Detailed environmental studies have begun within corridors along the alternative routes for SWIP. Studies include land uses; visual resources; cultural, paleontological, and Native American resources; vegetative and wildlife resources; soils, minerals, and other geologic resources; water resources; socioeconomics; and electrical and health effects. These studies are being facilitated by the use of state-of-the-art satellite imagery and a computerized mapping and analysis system.

In addition to the resource studies, a detailed agency contact program has been initiated to inform the many involved agencies of the overall study intent and schedule, and to obtain agency data necessary to evaluate the study corridors. As part of this program, an introductory letter was sent out in May 1989 to all agencies with potential jurisdiction and/or interest in SWIP. The BLM, National Park Service, Bureau of Reclamation, Forest Service, Department of Defense, and other federal, state, and local agencies are being contacted to collect available maps, reports, and other information relating to the project. Information collected during the Environmental Inventory will be summarized in the next SWIP newsletter.

SWIP STUDY AREA



QUESTIONS & ANSWERS

Many important issues of concern were raised during the SWIP scoping process. Answers to your questions follow.

PROJECT NEED AND INTERCONNECTIONS WITH OTHER UTILITIES

Why is SWIP needed? What is the rationale behind new construction?

SWIP is needed to provide Idaho Power Company and other perspective users with additional inter-regional transmission capacity. This additional capacity would provide for electric power transactions which include purchases, sales, exchanges, and maintenance coordination. Access to additional low-cost energy would allow purchasing utilities to displace the use of higher priced oil and gas generation. By facilitating seasonal exchanges the project would provide for the retirement of obsolete and uneconomical generating units. The project would also increase the reliability of the interconnected transmission system in the western United States.

Who would benefit from this project?

By providing additional transmission capacity to support increased electricity sales and exchanges, SWIP would allow for increased competition and efficiency in the marketplace. While the most immediate beneficiaries would be the electric utilities making power purchases and sales over the line, the electric consumer would ultimately benefit from improved competition and efficiency through stable and potentially lower electric rates.

What are the plans for additional generating facilities? How could this affect development of geothermal resources and future cogeneration options in the region?

This project involves power transmission only, not the construction of a new generation facility. However, interconnections with future regional generation facilities might be feasible. At this time it is not known how SWIP could affect the continuing interest in geothermal and cogeneration resources.

Would new lines need to be built in the area after SWIP is completed?

In its current planning, Idaho Power Company does not anticipate constructing additional high voltage lines through this area. Other utilities may require additional lines in the future.

Can existing transmission corridors be used? Could SWIP be combined with other lines?

Existing transmission line routes are being considered in the EIS/PA as alternative corridors. However, the lines themselves are used for a variety of purposes and cannot be readily combined.

What conservation plans for the surrounding utilities and governments are being considered?

All resource management plans and utility conservation plans will be addressed as part of the land use evaluation for the EIS/PA.

Is FERC involved with SWIP?

FERC will regulate rates charged to other utilities for use of the line, but they do not license transmission unless it is an explicit part of a FERC licensed generation project. Licensing of SWIP will be done by the BLM, the federal lead agency for the EIS/PA.

Is the "no-action" alternative being evaluated? Will cumulative and institutional impacts be reviewed?

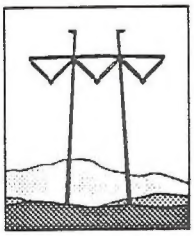
Yes, "no-action" is being considered as an alternative throughout the EIS/PA process. Both cumulative and institutional effects will be assessed in the document.

How would overall compliance be assured?

All applicable federal, state, and local compliance and permitting regulations will be followed. This will be discussed in detail in the project EIS/PA.

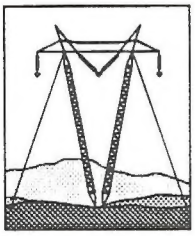
What maintenance would be necessary?

Regular inspections of the facilities would take place both by airplane and from the ground. Normal maintenance would be conducted promptly to correct any problems identified during inspections, and any serious problems would be corrected on an emergency basis.



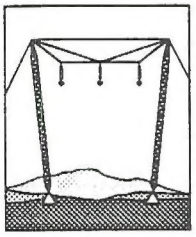
STEEL H-FRAME TOWER

Figure 1



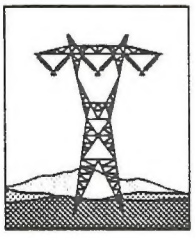
GUYED STEEL-LATTICE TOWER

Figure 2



CROSS-ROPE SUSPENSION TOWER

Figure 3



SELF SUPPORTING STEEL-LATTICE TOWER

Figure 4

VISUAL IMPACTS

Would highway and panoramic views be protected?

Dames & Moore is coordinating routing alternatives with the BLM, Forest Service, Bureau of Reclamation and National Park Service to consider scenic landscape values. Impacts to views will be addressed in the EIS/PA. Visual analysis and simulations will help evaluate the extent of visual concerns.

What types of poles have been proposed?

In the agricultural lands of southern Idaho, tubular steel H-frame poles would be utilized (Figure 1). In open country between southern Idaho and the Ely, Nevada area, guyed steel-lattice or cross-rope suspension structures would be used (Figures 2 and 3). From the Ely area east into Utah, the typical structures would be self-supporting steel-lattice towers (Figure 4).

What impacts would SWIP have on the relatively untouched landscape of the area?

During construction, ground disturbance could affect biological, cultural, earth, land use, visual, and other resources. The EIS/PA will assess these and other impacts in detail.

LAND USE IMPACTS

Would high-country areas be crossed by SWIP?

SWIP could possibly traverse two mountain passes southeast of Ely through the Ely Ranger District of the Forest Service.

How would SWIP affect different land uses such as flight operations, agricultural activities, ranching, planned government operations, existing utilities, mining claims, and local transportation routes?

Adverse land use impacts would be minimized to the extent possible. Impacts will be assessed and mitigation measures will be recommended in the EIS/PA.

Would private property be disturbed by actual construction and/or access roads? Are private and federal lands being equally considered?

Yes, some private land would be affected during the construction activities. However, federal lands would be utilized whenever feasible. As much as 80 to 90 percent of the proposed alternatives are on lands administered by federal or state agencies.

What would be the proximity of SWIP to populated areas? Would residential areas be avoided?

Every effort is being made to avoid populated areas. Individual residences are being inventoried along the alternative routes and avoided if possible.

Participants at the Delta public scoping meeting review project maps.

LAND USE IMPACTS (Continued)

Actual proximity will depend upon the final selected route.

How is SWIP being coordinated with local planning and zoning departments?

As required by the National Environmental Policy Act, all local agencies will be contacted during the EIS/PA planning process, and they will receive copies of all newsletters.

How would SWIP affect the military operating areas in Utah and Nevada?

Several meetings have been held with Hill Air Force Base to determine how low flying aircraft operations could be impacted. Additional meetings will be held to explore opportunities to minimize impacts on military operations. Hill Air Force Base is currently conducting an EIS on their future operations.

How would SWIP affect Great Basin National Park, Humboldt National Forest, and other nearby public lands?

Potential impacts to park, forest, and public lands are being evaluated in ongoing meetings between Dames & Moore and the agency resource specialists.

COST AND RIGHTS-OF-WAY

How would rights-of-way be assessed and acquired? How would landowners be compensated for the inconvenience involved with right-of-way transactions?

Individual negotiations would be held with each landowner along the selected route.

Who's financing the SWIP studies and construction?

At this time Idaho Power Company and Los Angeles Department of Water and Power are financing the project. However, additional participants are anticipated in the future.

WILDLIFE IMPACTS

What impacts would SWIP have on wildlife in general and their habitats?

The EIS/PA will identify wildlife impacts and appropriate mitigation measures. Critical habitats will be avoided as much as possible.

Will a "Threatened and Endangered Species Study" take place?

Yes, prior to the start of construction. Consultation with the U.S. Fish and Wildlife Service to identify potential locations of such species has already begun.

How would wetlands and stream flows be affected?

Wetlands and streams will be avoided wherever possible in the final route. If crossings are necessary, mitigation measures will be coordinated through the BLM, as the lead federal agency, and other agencies as appropriate. The EIS/PA will cover all impacts appropriate for a transmission line project.

How would the line affect sage grouse?

Raptors may perch on the towers, potentially increasing predation of sage grouse. Sage grouse studies are being conducted by the Nevada Department of Wildlife and the BLM, and an aerial spring survey of strutting grounds will be done within sensitive habitat areas along the alternative routes.

QUALITY OF LIFE/HEALTH AND SAFETY

What are the potential electromagnetic effects toward humans and livestock from SWIP? Are these effects additive?

No studies to date have been able to establish a cause and effect relationship between electromagnetic field exposures and health effects. Idaho Power Company and the utility industry will continue to monitor and support the ongoing research. These issues will be evaluated in the EIS/PA using the most current scientific findings.

How would existing homes be protected? How could induced current in fences be handled?

Mitigation of electrical effects (e.g., grounding) would be done during the initial design and operation of the line.

How will impacts on humans, wildlife and livestock be weighed?

The purpose of the EIS/PA is to assess the magnitude and significance of all impacts and to help determine the route with the least overall impact.

How would SWIP affect television and radio reception? Would this line have any noise impacts?

There may be some impact to t.v. and radio reception for homes located near or adjacent to the line. However, these effects can be minimized through engineering design. Transmission lines do produce some noise. These issues will be evaluated in the EIS/PA.

CULTURAL RESOURCES

What effect would the transmission line have on the proposed historic park near Hunt, Idaho?

Consultation with the Bureau of Reclamation and the Idaho State Historic Preservation Office is taking place to determine potential impacts to the historic site. Simulation photographs are being prepared to evaluate the visual impact on the park and alternative transmission routes being considered.

What would the effects be on archaeological and historical sites within the project area?

Cultural resources (e.g., the old transcontinental railroad route) would be protected according to all applicable federal and state statutes. Impacts will be evaluated in the EIS/PA.

How are Native American territorial concerns being addressed?

Native Americans are concerned about ownership of land crossed by some of the routes. The SWIP study team members are contacting Native American groups regarding areas of concern, including the Shoshone Treaty issues.

WATER AND SOIL RESOURCES

Are adverse impacts on hydrologic and geohydrologic resources anticipated?

Every effort will be made during the routing studies to avoid any sensitive areas (e.g., faults, springs, etc.). The EIS/PA will address these impacts in detail.

Would water quality be affected?

Water quality impacts have not been determined at this time, but will be evaluated in the EIS/PA.

SOCIOECONOMIC IMPACTS

What impacts would SWIP have on local tourism?

Potential conflicts with tourist access to services and facilities are expected to be minimal since construction crews for transmission lines are usually small and mobile. The effect of project construction on housing requirements for construction crews will be evaluated in the EIS/PA.

Would SWIP increase local employment opportunities?

SWIP would likely result in some local employment during construction. It is not anticipated that there will be long-term local employment.

Could SWIP affect the value of surrounding property?

It is not known at this time what effects SWIP could have on property values. The socioeconomic analysis for the EIS/PA will address property value effects and corresponding right-of-way compensation.

NEWSLETTER #1

A Publication for the Southwest Intertie Project

You may currently be receiving material on the Thousand Springs Project. Please note that the information in this newsletter pertains to the Southwest Intertie Project only.

Jim Jensen
Project Manager
Dames & Moore
P.O. Box 1601
Boise, ID 83701

NEWSLETTER

A Publication for the Southwest Intertie Project

PUBLIC INVOLVEMENT

Opportunities for continued public involvement are listed in the "Project Schedule" located below. Upcoming activities include additional newsletters and public planning workshops. Public hearings will be held during the Draft EIS/PA public review phase of this project. Public hearing announcements will be published in the Federal Register and notices will be distributed to area newspapers.

A pre-addressed Response Sheet is included in this newsletter. Please take a few minutes to complete and return this form to give us your input on SWIP.

PROJECT CONTACTS

Please direct any additional project-related questions or comments you have to the following contacts:

Karl Simonson
BLM Project Manager
BLM/Burley District Office
Route 3, Box 1
Burley, Idaho 83318
(208) 678-5514

Jim Jensen
Project Manager
Dames & Moore
P.O. Box 1601
Boise, Idaho 83701
(208) 344-6140

PROJECT SCHEDULE *

* *These dates are subject to change*

Jim Jensen
Dames & Moore
Environmental Studies Project Manager
P.O. Box 1601
Boise, ID 83701

PROJECT UPDATE

A Publication for the Southwest Intertie Project

October 1990

Valley, Muleshoe Valley, and Schell Creek Range, and in the Las Vegas District's Caliente Resource Area along the east side of Dry Lake Valley.

ENVIRONMENTAL STUDIES NEAR COMPLETION

All alternative routes proposed for SWIP are now being studied according to requirements of the National Environmental Policy Act of 1969 (NEPA). The studies, which are nearing completion, include detailed studies of the environmental resources within the proposed corridors. One of the alternative routes in the extended SWIP Environmental Impact Statement/Plan Amendment (EIS/PA) studies includes a transmission line corridor approved by the BLM for the WPPP in a 1985 Record of Decision. Another of the proposed alternative routes in the expanded SWIP studies is located in a corridor that was designated by BLM in the Caliente Resource Area Management Framework Plan.

The environmental studies for SWIP are being conducted by D&M, with oversight by BLM. Study data will be included in the EIS/PA prepared for SWIP, and results of the studies will be summarized in the next SWIP update. Following public comment and impact assessment, the environmentally preferred alternative route will be addressed in the EIS/PA for SWIP.

Public Involvement

In March 1989, four Public Scoping Meetings were held in locations within the original SWIP study area. Three additional Public Scoping Meetings were held in June 1990 to obtain public comments on the expanded SWIP study area. As part of the impact assessment process for the entire project, Public Planning Workshops will be conducted to obtain public comments on alternative routes in all the SWIP study corridors. The workshops were originally scheduled to take place this fall, but are now scheduled for January 1991. Information on exact dates, times, and locations for the workshops will be distributed through the project mailing list and area newspapers.

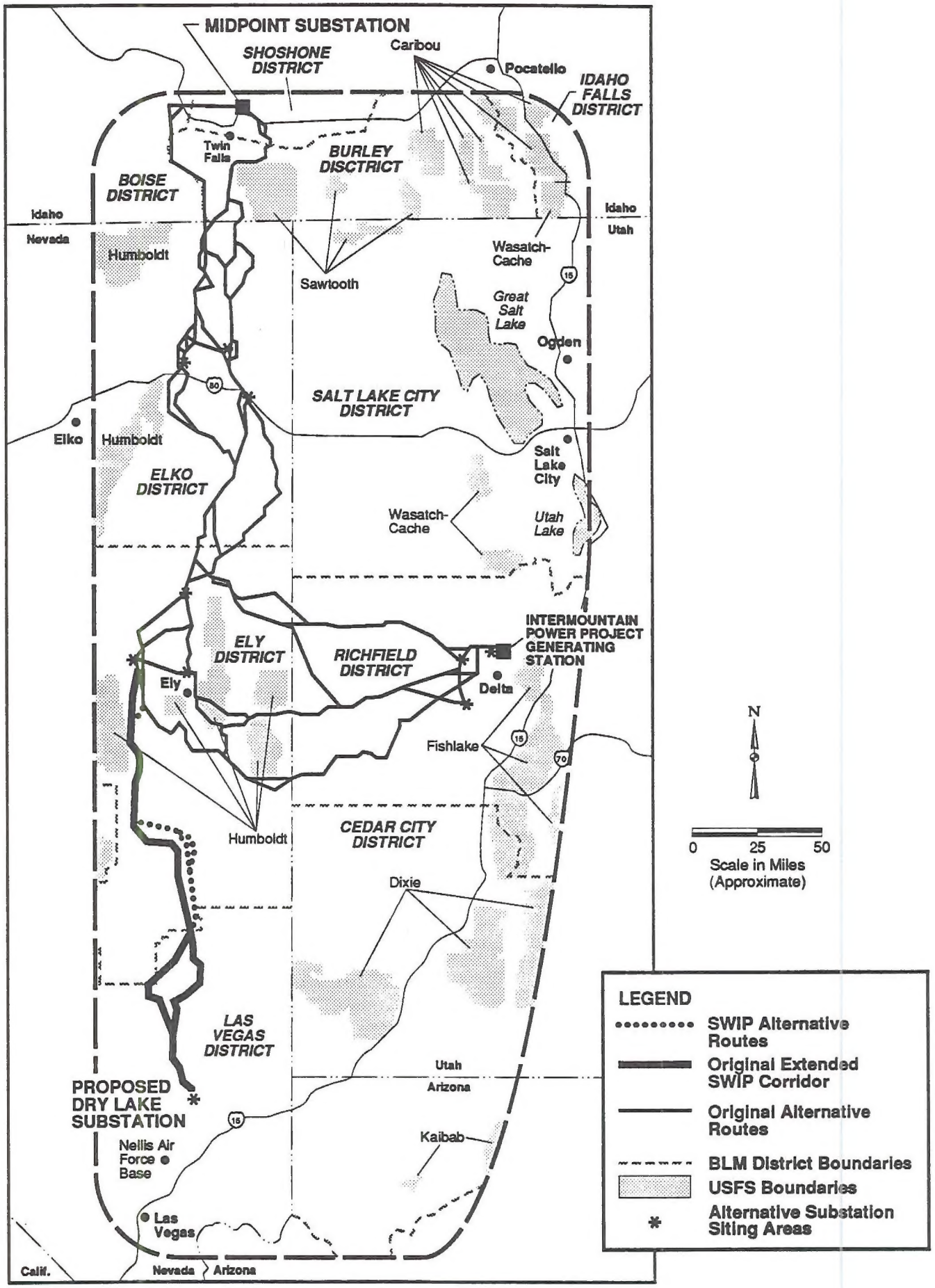
To obtain additional public comments on SWIP, a response sheet has been enclosed with this update. Please take some time to complete and return the form. Direct any further project-related questions or information requests to the following contacts:

Karl Simonson
BLM/Burley District Office
BLM Project Manager
Route 3, Box 1
Burley, Idaho 83318
(208) 678-5514

Jim Jensen
Dames & Moore
Environmental Studies Project Manager
P.O. Box 1601
Boise, Idaho 83701
(208) 344-6140

Following the release of the draft EIS/PA, there will be a Public Review Period. Formal Public Meetings will be conducted by BLM to obtain public comment on the draft document. The draft EIS/PA is currently scheduled to be completed in April 1991.

Your input is an integral part of SWIP! Please share your comments and questions by filling out the attached response form, attending the Public Planning Workshops and Formal Public Meetings, and contacting the project personnel listed above.


MIDPOINT SUBSTATION
SHOSHONE DISTRICT
Caribou
Pocatello
IDAHO FALLS DISTRICT
Twin Falls
BURLEY DISCTRICT
BOISE DISTRICT
Idaho
Nevada
Idaho
Utah
Humboldt
Wasatch-Cache
Sawtooth
Great Salt Lake
Ogden
SALT LAKE CITY DISTRICT
Elko
Humboldt
Salt Lake City
ELKO DISTRICT
Wasatch-Cache
Utah Lake
INTERMOUNTAIN POWER PROJECT GENERATING STATION
ELY DISTRICT
RICHFIELD DISTRICT
Ely
Delta
Fishlake
Humboldt
CEDAR CITY DISTRICT
Dixie
LAS VEGAS DISTRICT
Utah
Arizona
PROPOSED DRY LAKE SUBSTATION
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Nellis Air Force Base
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Scale in Miles (Approximate)
LEGEND
SWIP Alternative Routes
Original Extended SWIP Corridor
Original Alternative Routes
BLM District Boundaries
USFS Boundaries
Alternative Substation Siting Areas

PROJECT UPDATE

A Publication for the Southwest Intertie Project

October 1990

OVERVIEW

The Southwest Intertie Project (SWIP) is a 500 kilovolt transmission line proposed by Idaho Power Company (IPCo). SWIP is needed to provide IPCo and other prospective utility companies with additional transmission capacity. The project would:

- increase the reliability of the interconnected transmission system in the western United States
- provide northwest utilities access to a larger number of interconnected utilities in the southwest
- create a more competitive utility environment compatible with IPCo's desire to establish an "open marketplace"
- realize the benefits of seasonal diversity between the northwest and the southwest.

The purpose of this October 1990 update is to provide you with information on progress of the environmental review process for SWIP, including the addition of recently developed alternative routes.

Earlier this year the SWIP study area was expanded to include a corridor from the Ely, Nevada area to the proposed Dry Lake substation located approximately 25 miles northeast of Las Vegas, Nevada. The **SWIP Study Area** map on page 2 of this update shows the original extended corridor. A factsheet which describes the SWIP study area expansion in detail was distributed in June 1990. If you would like a copy of the June 1990 SWIP factsheet, please direct your request to the contacts listed in the **Public Involvement** information box on page 3 of this update.

NELLIS AIR FORCE BASE EXPRESSES CONCERNS

During the environmental studies for the extended corridor, Nellis Air Force Base (Nellis A.F.B.) informed SWIP personnel that several of the proposed alternative routes within the extended corridor were of concern. As shown on the **SWIP Study Area** map, Nellis A.F.B. is located just north of Las Vegas. Nellis A.F.B. routinely conducts critical low-level flight training at 100 feet above the ground in several Military Operating Areas (MOAs) in the vicinity of the base. Since transmission line towers for SWIP will typically range in height from 120 to 130 feet, approximately 150 miles of the proposed alternative routes in the extended SWIP corridor, particularly in the White River Valley and Dry Lake Valley areas, could interfere with the low-level flying conducted during Nellis A.F.B. training exercises.

ALTERNATIVE ROUTES DEVELOPED

In response to the concerns raised by Nellis A.F.B., extensive discussions between representatives from Nellis A.F.B., IPCo, Bureau of Land Management (BLM), and the consulting firm of Dames & Moore (D&M) took place. As a result of these meetings, Nellis A.F.B. agreed to raise flying levels in some of the alternative routes within their MOAs. For other alternative routes, it was agreed that tower heights would be lowered. In addition, several alternatives to the White Pine Power Project (WPPP) corridor were developed. As noted on the **SWIP Study Area** map by dotted lines, proposed alternative routes in the extended corridor occur in the Elko District's Schell Resource Area—White River

FACT SHEET

A Publication for the Southwest Intertie Project

June 1990

Jim Jensen
Dames & Moore
Environmental Studies Project Manager
P.O. Box 1601
Boise, ID 83701

For Your Information

The resource inventory phase for the original Southwest Intertie Project (SWIP) study area is complete and preparation of the EIS/PA is in progress. Public Scoping Meetings for the recently expanded SWIP study area will be held in Nevada on June 26th, 27th, and 28th. Meeting details are on page 1 of this fact sheet. A newsletter describing the inventory results and the scoping process for the expanded SWIP EIS/PA studies will be distributed later this year.

Public involvement continues to be an important part of the SWIP. Please direct any project-related questions, comments, information requests, or mailing address changes to the following contacts:

Karl Simonson
BLM/Burley District Office
BLM Project Manager
Route 3, Box 1
Burley, Idaho 83318
(208) 678-5514

Jim Jensen
Dames & Moore
Environmental Studies Project Manager
P.O. Box 1601
Boise, ID 83701
(208) 344-6140

communities, pinon-juniper woodlands, and other sensitive species
- potential impacts on wildlife, particularly mule deer, elk, pronghorn, desert bighorn sheep, desert tortoise, sage grouse leks, ferruginous hawk, raptors, and other sensitive species
- potential impacts on aquatic species
- potential impacts on scenic areas and wilderness study areas
- location of significant cultural resources and fossil resources
- soil erosion and revegetation

Following the completion of the final WPPP EIS in 1984, the project was approved and a Record of Decision was released in 1985. Because one segment of the WPPP transmission line corridor is near the Delamar Wilderness Study Area, alternative routes around the area are being evaluated as part of the expanded SWIP EIS/PA studies.

SWIP Resource Studies

As a result of the recent inclusion of the WPPP transmission line corridor to the SWIP study area, detailed studies of the following resources within the corridor will be conducted. Issues of potential concern include:

- Biological Resources: desert tortoise, wild horses and burros, sage grouse, and other sensitive species
- Paleontological Resources: location of significant fossil resources
- Minerals/Soils: soil erosion, mineral claims on public land
- Water Resources: water quality
- Atmospheric Resources and Noise
- Cultural Resources/Native American Issues: sensitive sites, sites on National Register of Historic Places
- Land Use: wilderness area status, special management areas, agriculture, residences, grazing
- Visual Resources: visual impacts to residences, park and recreation areas, scenic highways
- Socioeconomics: construction work force, tax base
- Electromagnetic Effects: potential biological exposure
- Cumulative Environmental Effects

Public Involvement

In March 1989, four Public Scoping Meetings were held in locations within the original SWIP study area. These public forums marked the formal start of the SWIP EIS/PA preparation.

Three additional Public Scoping Meetings are scheduled for late this June to obtain public comments on the expanded SWIP study area. Meeting details are listed in the information box on page 1.

Throughout the SWIP scoping process, public comment is being gathered from public meetings, newsletter responses, and contacts by project personnel. This information will form the basis for selecting alternative transmission line routes within the proposed corridors for the entire SWIP study area and will help to define the overall scope of the EIS/PA.

Later this year, Public Planning Workshops will be conducted as part of the impact assessment process. Public comments on alternative routes within all the SWIP study corridors will be obtained during these workshops. Announcements for these workshops will be distributed through the project mailing list and area newspapers.

What is an Environmental Impact Statement?

When the SWIP was proposed in January 1989, the Bureau of Land Management (BLM) determined that an Environmental Impact Statement (EIS) and Plan Amendment (PA) would be necessary. An EIS is a document which explains in detail the purpose and need for the project. Through the preparation of an EIS, project alternatives are developed and the potential impacts from these alternatives are evaluated. Following extensive resource studies and public involvement activities, the environmentally preferred alternative is identified. The National Environmental Policy Act of 1969 requires an EIS to be prepared for all major federal actions.

The BLM is the lead federal agency overseeing the SWIP EIS/PA preparation, which is currently in progress. The U.S. Forest Service, the National Park Service, and the Bureau of Reclamation are cooperating federal agencies. Dames & Moore, an international engineering and environmental consulting firm, was selected by the BLM and IPCo to conduct the required resource studies and prepare the EIS/PA.

Ely, the transmission line would continue south to Harry Allen II, a proposed substation site located approximately 25 miles northeast of Las Vegas. This extension would provide a southern endpoint for SWIP located in an area that already has numerous electrical load and resource exchanges in place.

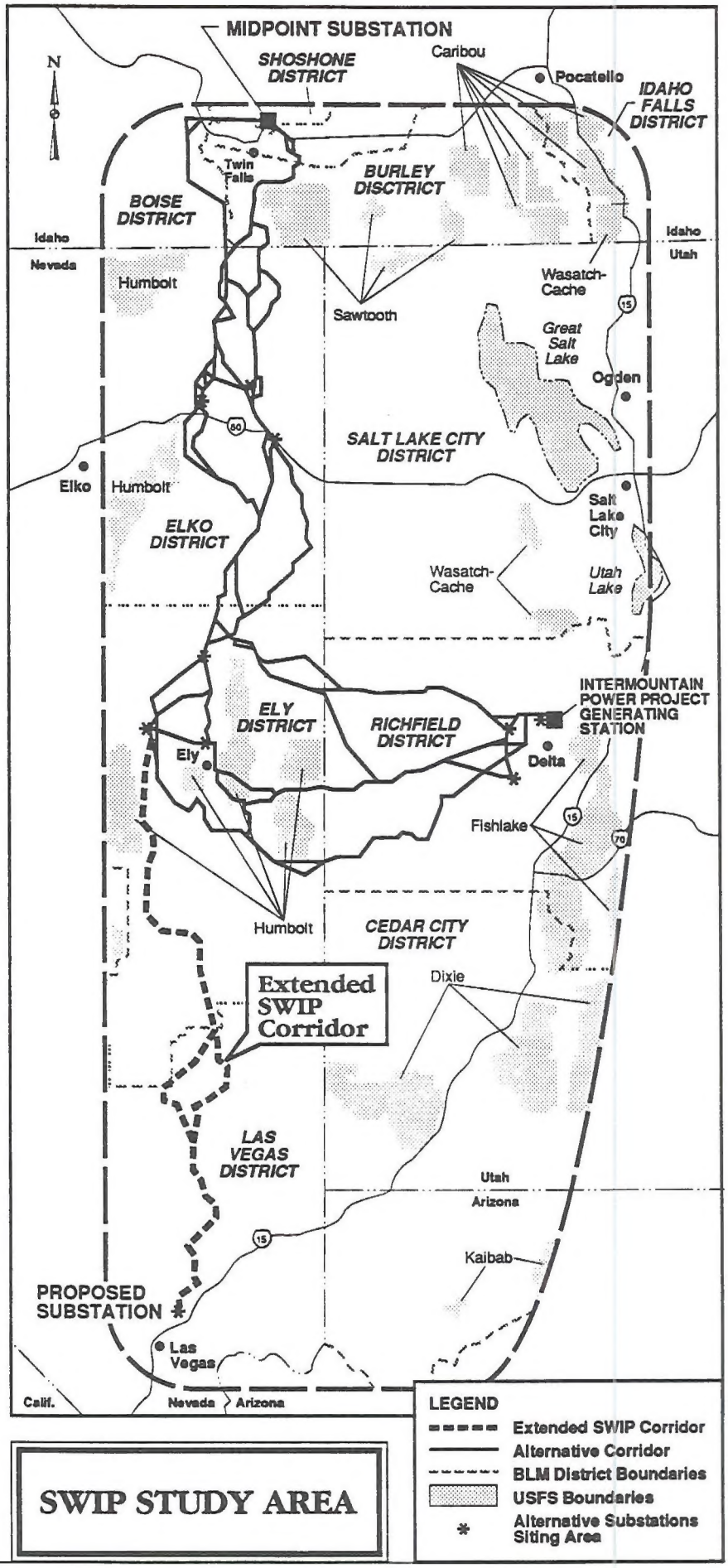
Although the size of the SWIP study area has increased, the original purpose and need for the project has not changed. The map to the right shows the alternative corridors as originally proposed and the recently proposed corridor which extends into the Las Vegas area. This new route utilizes a transmission line corridor that was approved for the White Pine Power Project (WPPP) in 1985.

In the early 1980s, studies began for the WPPP near Ely, Nevada. Detailed environmental studies and engineering evaluations were conducted for the three alternative project sites and the associated transmission line corridor. This same transmission line corridor will be evaluated during the expanded SWIP EIS/PA studies. These additional studies will incorporate and build upon the transmission line corridor information prepared for the WPPP EIS.

As part of the scoping process for the WPPP in 1983, an extensive community relations program was implemented. The program involved the formation of a large citizens advisory group and several technical subcommittees. Together with agency representatives and project personnel, the local citizens studied the potential impacts the WPPP could have on area resources.

Primary issues of public concern in 1983 associated with the construction of the proposed transmission line portion of the WPPP included:

- potential impacts on vegetation, particularly northern desert shrub, salt desert shrub, Mojave desert



SWIP STUDY AREA

FACT SHEET

A Publication for the Southwest Intertie Project

June 1990

Project History

Idaho Power Company (IPCo) is planning to construct and operate a new 500 kilovolt transmission line called the Southwest Intertie Project (SWIP). As originally proposed, the SWIP transmission line would extend from IPCo's Midpoint Substation near Shoshone, Idaho, south to a new substation near Ely, Nevada. From here, a transmission line segment would extend east from Ely to another new substation near Delta, Utah. Please refer to the SWIP Study Area map on page 2.

The SWIP is needed to provide IPCo and other prospective utility companies with additional transmission capacity. The project would:

- Increase the reliability of the interconnected transmission system in the western United States
- Provide northwest utilities access to a larger number of interconnected utilities in the southwest
- Create a more competitive utility environment compatible with IPCo's desire to establish an "open marketplace"
- Realize the benefits of seasonal diversity between the northwest and the southwest

It is planned that the SWIP will connect with the Utah/Nevada Transmission Project near Ely. This project is being developed by various utility companies including the Los Angeles Department of Water and Power (LADWP), Nevada Power Company, Utah Power and Light Company, Utah Associated Municipal Power Systems, and Deseret Generation and Transmission Cooperative.

IPCo is responsible for the environmental review process of the approximately 150-mile segment of line from Ely to Delta, Utah, on behalf of the Utah/Nevada Transmission Project participants. However, LADWP would construct that segment of the line. This segment would increase the reliability of the SWIP transmission line and could provide a supplemental path for deliveries of power and energy to IPCo's wholesale markets located in Utah.

SWIP Study Area Expanded

In order to be economically feasible, the southern endpoint of the SWIP must be located in a robust utility market. Preliminary studies have shown that the initial ending point for the southern terminal in the Ely, Nevada area cannot be developed into the type of utility market that is needed for this project. Therefore, a project expansion from Ely to Las Vegas has been proposed. From the new substation near

Public Scoping Meetings Planned

To hear your views on the expanded SWIP study area and discuss the overall scope of the SWIP, three Public Scoping Meetings will be held at the following locations:

Ely, Nevada
Tuesday, June 26th
7:30pm to 9:00pm
Bristlecone Convention Center
150 6th St.

Caliente, Nevada
Wednesday, June 27th
7:30pm to 9:00pm
Caliente Resource Area
Office Conference Room

Las Vegas, Nevada
Thursday, June 28th
7:30pm to 9:00pm
BLM District Office Conference Room
4765 Vegas Drive

Information obtained during the Public Scoping Meetings held for the original SWIP study area has helped focus the study on key issues of concern to the public. Please plan on attending the Public Scoping Meeting in your area and sharing your comments on the expanded SWIP study area.

Because of the need to inventory and evaluate this alternative route as part of the SWIP Environmental Impact Statement/Plan Amendment (EIS/PA), the project schedule will be extended by about 3 months. Upon completion of the detailed environmental studies on all of the alternative routes, results will be discussed in a detailed project newsletter. A revised schedule and public response sheet will be included with the next newsletter, currently planned for early spring of 1990.

Public planning workshops are also being scheduled to gain your input on the different alternatives. Everyone on the mailing list will be notified in advance of the dates, times, and places for the workshops. In the meantime, if you have any project–related questions or comments, or need to make changes to the mailing address on the front of this update, please contact:

Karl Simonson
BLM/Burley District Office
BLM Project Manager
Route 3, Box 1
Burley, Idaho 83318
(208) 678–5514

Jim Jensen
Dames & Moore
Environmental Studies Project Manager
P.O. Box 1601
Boise, Idaho 83701
(208) 344–6140

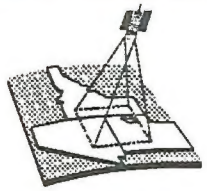
Jim Jensen
Dames & Moore
Environmental Studies
Project Manager
P.O. Box 1601
Boise, Idaho 83701
(208) 344-6140

PROJECT UPDATE

A Publication for the Southwest Intertie Project

PROJECT UPDATE

A Publication for the Southwest Intertie Project

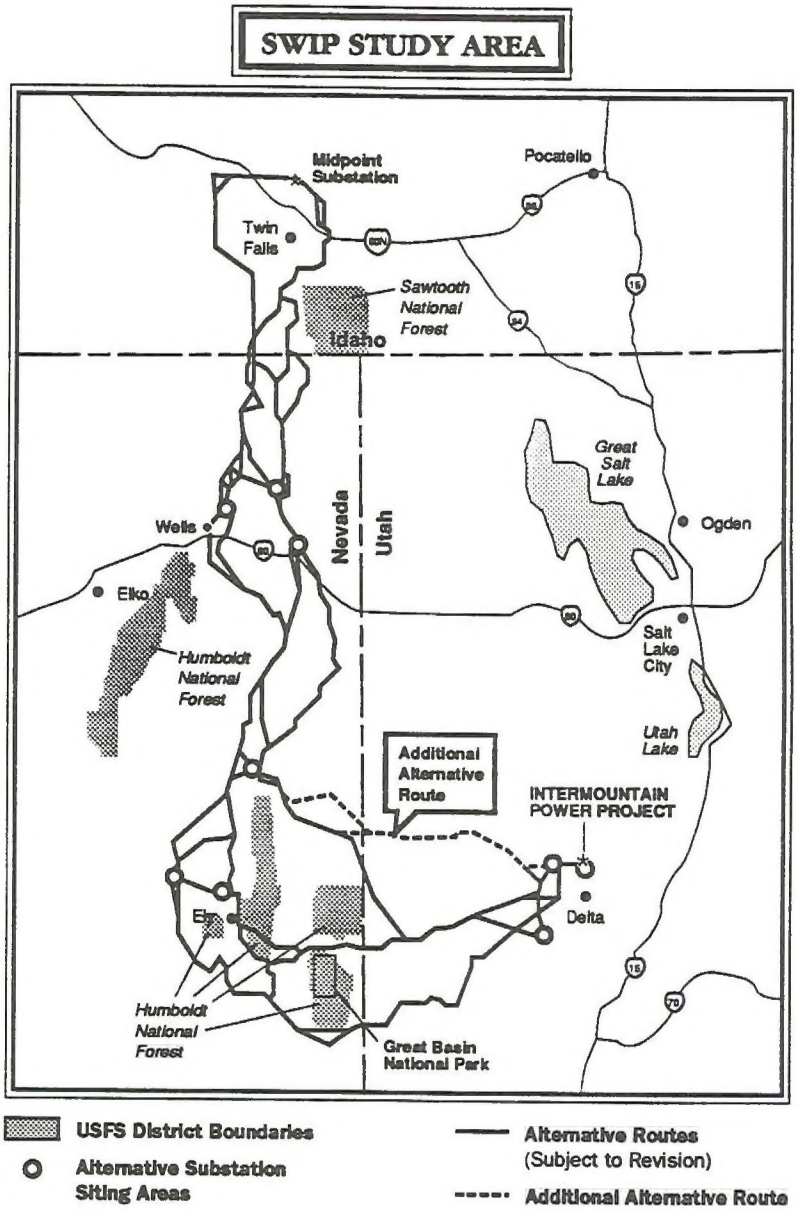


FACT SHEET #3 **DECEMBER 1989**

ADDITIONAL ALTERNATIVE ROUTE IDENTIFIED/ PROJECT SCHEDULE EXTENDED

While conducting the environmental resource inventory of the alternative routes for the Southwest Intertie Project (SWIP), another alternative route was identified. This route, mainly located in western Utah, was proposed by the staff at Great Basin National Park.

This new route, shown on the map to the right, travels west from the Intermountain Power Project through the Drum Mountains. It extends through the north end of Tule Valley and the Confusion Mountain Range. The route then forks near Coyote Spring at the Nevada - Utah border. The lower fork of the route goes directly west until it joins other alternative routes. The upper fork travels northwest through Pleasant Valley, then angles toward the south end of the Antelope Mountain Range. Here it connects with an existing alternative route.



While this additional route crosses primarily Bureau of Land Management (BLM) administered public lands, it is not within a designated BLM utility corridor. Should this route be selected, a land use plan amendment would be required.

A portion of this route crosses an area of restricted air space managed by Hill Air Force Base in Utah. The restricted classification of this area would require transmission lines to be lower than 100 feet above ground level. Although building a section of a 500kV transmission line at this lower height would increase the number of towers and the construction cost per mile, utilizing this route would shorten the total length of the line by about 40 miles.

(Continued on back)

Public planning workshops are also being planned to gain your input on the different alternatives. Everyone on the mailing list will be notified in advance of the dates, times, and places for the workshops. In the meantime, please direct any project–related questions or comments to the following contacts:

Karl Simonson
BLM/Burley District Office
BLM Project Manager
Route 3, Box 1
Burley, Idaho 83318
(208) 678–5514

Jim Jensen
Dames & Moore
Project Manager
P.O. Box 1601
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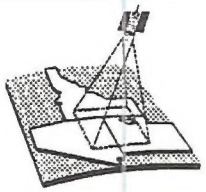
Boise, Idaho 83701

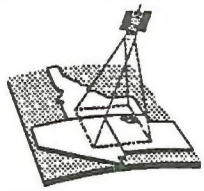
PROJECT UPDATE

A Publication for the Southwest Intertie Project



PROJECT UPDATE

A Publication for the Southwest Intertie Project



FACT SHEET #3 **OCTOBER 1989**

This fact sheet explains revisions in the Southwest Intertie Project (SWIP) schedule. During this extension, our detailed environmental studies are continuing on the new alternative routes that we explained in the last fact sheet (August 1989).

PROJECT SCHEDULE EXTENDED

Why Extend the Schedule?

The SWIP schedule has been extended so that Dames & Moore, the consulting firm retained to conduct the SWIP siting study, can complete detailed environmental studies on the new alternative route located to the north of Great Basin National Park. As we explained in our August fact sheet, this alternative route is being considered to avoid visual impacts to Great Basin National Park.

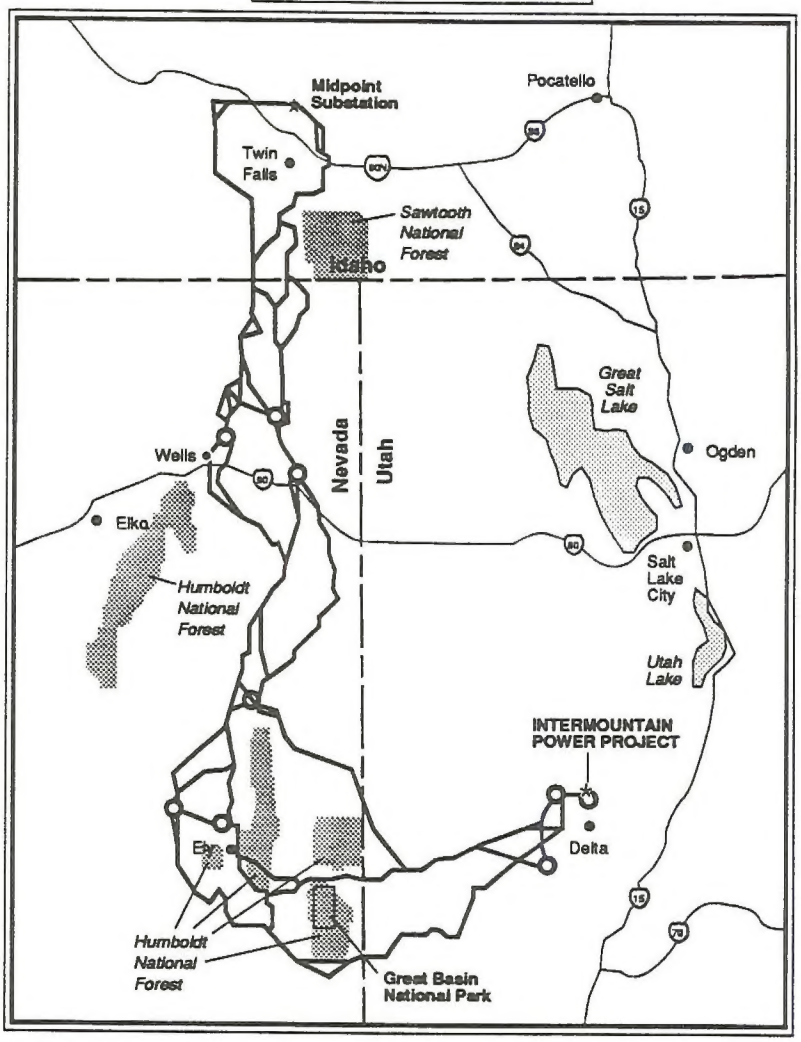
For How Long?

Dames & Moore anticipates that the additional environmental studies extend the project schedule by an additional 6 weeks. The schedule could be extended further if other alternatives are identified.

How Can the Public Stay Informed?

To stay informed about SWIP, make sure that the address on this fact sheet is correct. Upon completion of detailed environmental studies on all alternative routes, results will be summarized in a project newsletter and distributed to the project mailing list. The newsletter will include a response sheet so that you can send in your comments.

SWIP STUDY AREA



(Continued on back)

PUBLIC COMMENTS INVITED

Please send your comments on this alternative transmission line route to either of the individuals listed blow. If possible, we would appreciate receiving your comments by August 18, 1989. Additional comments on the other alternatives are also welcome.

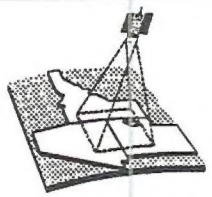
Karl Simonson
BLM Project Manager
Burley District Office
Route 3, Box 1
Burley, Idaho 83318
(208) 678-5514

Jim Jensen
Dames & Moore Project Manager
P.O. Box 1601
Boise, Idaho 83701
(208) 344-6140

Jim Jensen
Dames & Moore Project Manager
P.O. Box 1601
Boise, Idaho 83701

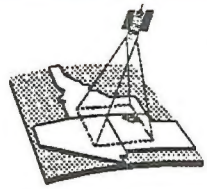
PROJECT UPDATE

A Publication for the Southwest Intertie Project



PROJECT UPDATE

A Publication for the Southwest Intertie Project



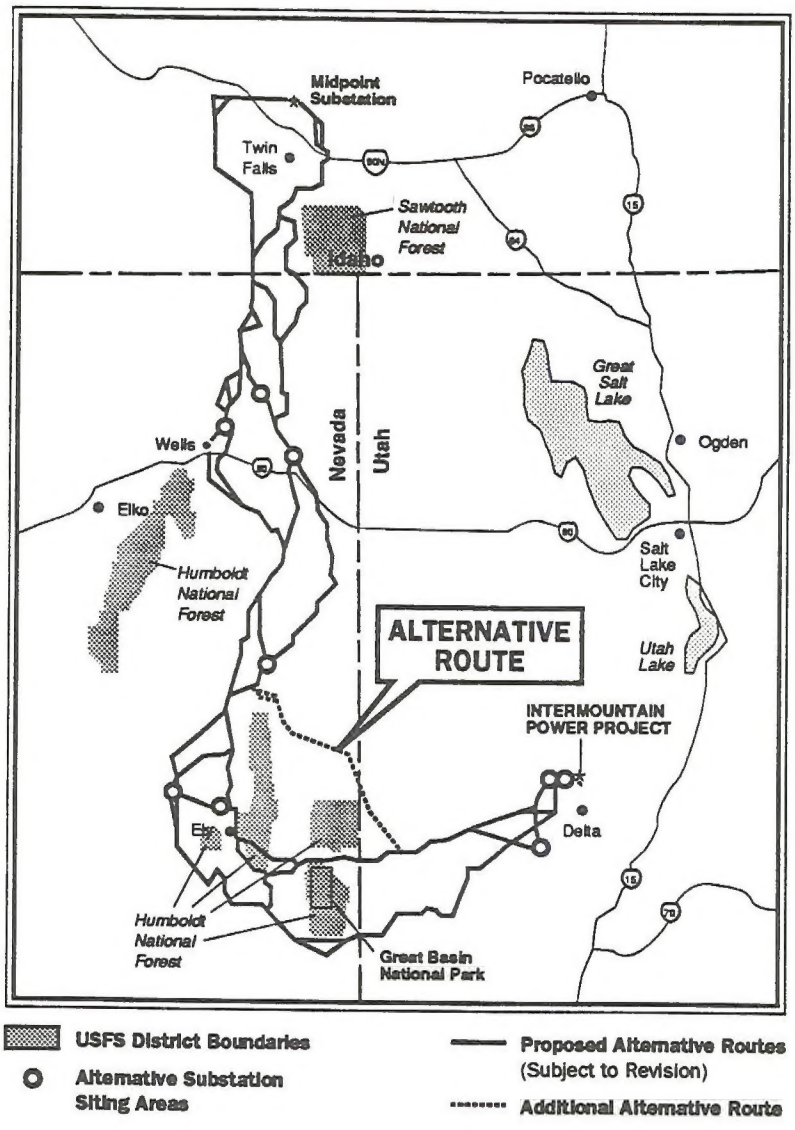
FACT SHEET #2 **AUGUST 1989**

This update explains an additional transmission line routing alternative to be evaluated in the Environmental Impact Statement (EIS) and Plan Amendment (PA) for the Southwest Intertie Project (SWIP). The other proposed alternative routes remain the same as those described in Newsletter #1 distributed in July 1989.

ADDITIONAL ALTERNATIVE IDENTIFIED

During the public scoping process for the SWIP EIS/PA, staff at Great Basin National Park suggested that an alternative transmission line route be considered to avoid visual impacts to the park and planned roadside interpretive sites outside of the park boundaries. After evaluating this alternative and reviewing public comments, the Bureau of Land Management (BLM), the lead federal agency for the SWIP EIS/PA, and Idaho Power Company, the SWIP proponent, have determined that this alternative will be evaluated in the EIS/PA.

The proposed additional alternative, shown in the map to the right, primarily crosses BLM lands. In Nevada, the route travels southeast through the north end of the Schell Creek Range near Spring Gulch, Spring Valley, and the Mike Spring Wash area. It then crosses into Utah and heads southeast through the Snake Valley. Since this alternative route does not lie within a designated BLM utility corridor, a land use plan amendment would be required if this route were selected.



This additional alternative will be included in the environmental studies outlined in the July 1989 newsletter. Inventory results for all alternatives will be reported in the next SWIP newsletter.

From: _____

_____

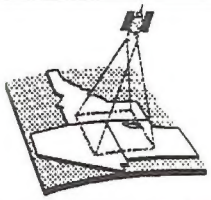
_____

_____

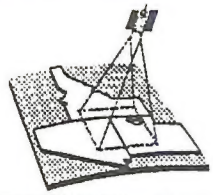
Place 25¢ Stamp Here

To: Jim Jensen
Project Manager
Dames & Moore
P.O. Box 1601
Boise, ID 83701

RESPONSE SHEET



RESPONSE SHEET



FOR NEWSLETTER #1 JULY 1989

Because your input is an important part of the Southwest Intertie Project (SWIP) planning process, we'd like to hear your comments. Please take a few minutes to read and complete this Response Sheet. When you're done, fold this form into thirds, tape the edges shut, and affix a 25¢ stamp before mailing.

1. Would you like to ❑ remain on ❑ be added to ❑ be deleted from the SWIP mailing list?

2. Please list your current address and any additional names/address you feel should be on our mailing list so that we can make any necessary revisions. If you're making address corrections, please attach the mailing label from the newsletter.

Your Name: _____
Address: _____
City, State, Zip Code: _____
Phone Number: _____

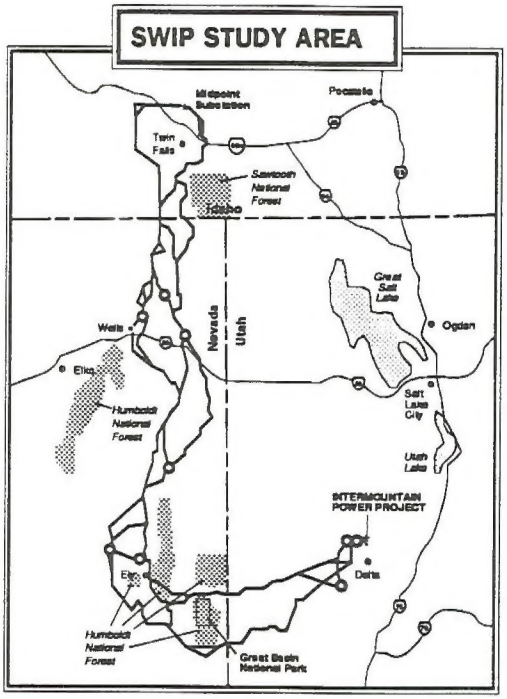
Your Name: _____
Address: _____
City, State, Zip Code: _____
Phone Number: _____

3. Would you like to receive a copy of the DRAFT Environmental Impact Statement/Plan Amendment? ❑ yes ❑ no

4. Please check the category or categories in which you're interested. On the map below, mark the corresponding area(s) with the appropriate capital letter from the category list. Use the space provided to list your questions and/or discuss your concerns.

- ❑ **A** Project Need and Interconnections with Other Utilities
- ❑ **B** Cost and Rights-of-Way
- ❑ **C** Land Use Impacts
- ❑ **D** Visual Impacts
- ❑ **E** Wildlife Impacts
- ❑ **F** Quality of Life/ Health and Safety
- ❑ **G** Cultural Resources
- ❑ **H** Water and Soil Resources
- ❑ **I** Socioeconomic Impacts

5. Please share your views on any other aspect of this project. Feel free to send additional questions to the contacts listed on the back page of Newsletter #1. _____



PUBLIC INVOLVEMENT

We'd like to know if this public program has been effective in helping you better understand SWIP. Please answer the following questions.

- **Have you found the SWIP publications to be helpful?**
  ❑ yes ❑ no
- **Were you able to attend any of the public scoping meetings?**
  ❑ yes ❑ no
- **If yes, which meeting(s) did you attend?**
  ❑ Twin Falls, ID ❑ Wells, NV ❑ Ely, NV ❑ Delta, UT
- **If yes, do you feel that helpful information was presented?**
  ❑ yes ❑ no

Additional Comments: _____

RESPONSE SHEET

A Publication for the Southwest Intertie Project

October 1990

We'd like to hear your comments on SWIP. Please take a few minutes to answer the following questions and then return this sheet.

1. Would you like to remain on our mailing list and receive future project publications?
   ____ yes ____ no

2. Please list your current address and any additional names/addresses you feel should be included on our mailing list.

   Your name _____
   Address _____
   City/State _____
   Zip Code _____

   Name _____
   Address _____
   City/State _____
   Zip Code _____

3. Would you like to receive copies of the draft and/or final Environmental Impact Statement/Plan Amendment? _____ yes _____ no If yes, please indicate the document(s) you'd like to receive.

4. Would you like to receive other information on SWIP? If so, please describe.

5. Please comment on transmission line routing concerns you have regarding the extended SWIP study area and recently developed alternative routes.

6. Please comment on any other aspect of this project.

PLEASE FOLD THIS PRE-ADDRESSED RESPONSE FORM IN HALF, AFFIX A 25¢ STAMP, AND TAPE BEFORE MAILING

Thank you for your comments.

FROM: _____

_____

_____

Affix
25¢
Stamp

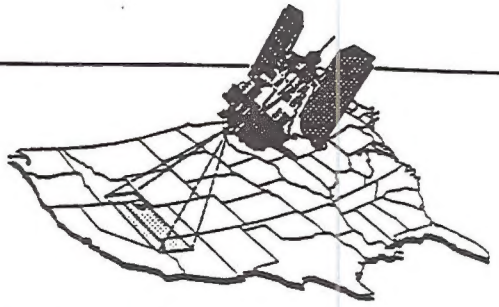
TO: **Jim Jensen**
Dames & Moore
Environmental Studies Project Manager
P.O. Box 1601
Boise, Idaho 83701

RESPONSE SHEET

A Publication for the Southwest Intertie Project

October 1990

PROJECT UPDATE



A Publication for the Southwest Intertie Project

December 1990

PROJECT REVIEW

The Southwest Intertie Project (SWIP) is a 500 kilovolt (kV) transmission line proposed by Idaho Power Company (IPCo). SWIP would allow IPCo and other utilities to assist in meeting regional electricity needs. The SWIP study area covers portions of Idaho, Nevada, and Utah. It is planned that SWIP will connect with the Utah/Nevada Transmission Project near Ely, Nevada. The SWIP study area and alternative routes are shown on the map on page 2 of this update.

In this update, the recently completed resource inventory studies and impact assessments conducted for SWIP are summarized. Previous updates discuss the history and progress of the project in more detail, and can be obtained by contacting the project personnel listed on the back page.

RESOURCE STUDIES COMPLETED

The resource inventory studies for SWIP included extensive data collection, literature review, and field reconnaissance for the following disciplines:

- biological resources
- earth resources
- cultural resources
- visual resources
- land use

Satellite imagery and digital terrain mapping were used in obtaining resource data for the SWIP study area. Also, federal, state, and local agencies were contacted. Results of the resource inventory studies and impact assessments are summarized on page 3 of this update.

PUBLIC PLANNING WORKSHOPS

The following public planning workshops are scheduled to present the results of the resource inventory studies and impact assessments for SWIP, and to obtain public comment on the alternative routes within the SWIP study area:

Twin Falls, Idaho
Monday, January 7, 1991
7:00pm - 9:00pm
Weston Plaza
1350 Blue Lake Blvd. N.

Wells, Nevada
Tuesday, January 8, 1991
7:00pm - 9:00pm
Wells High School
115 Lake

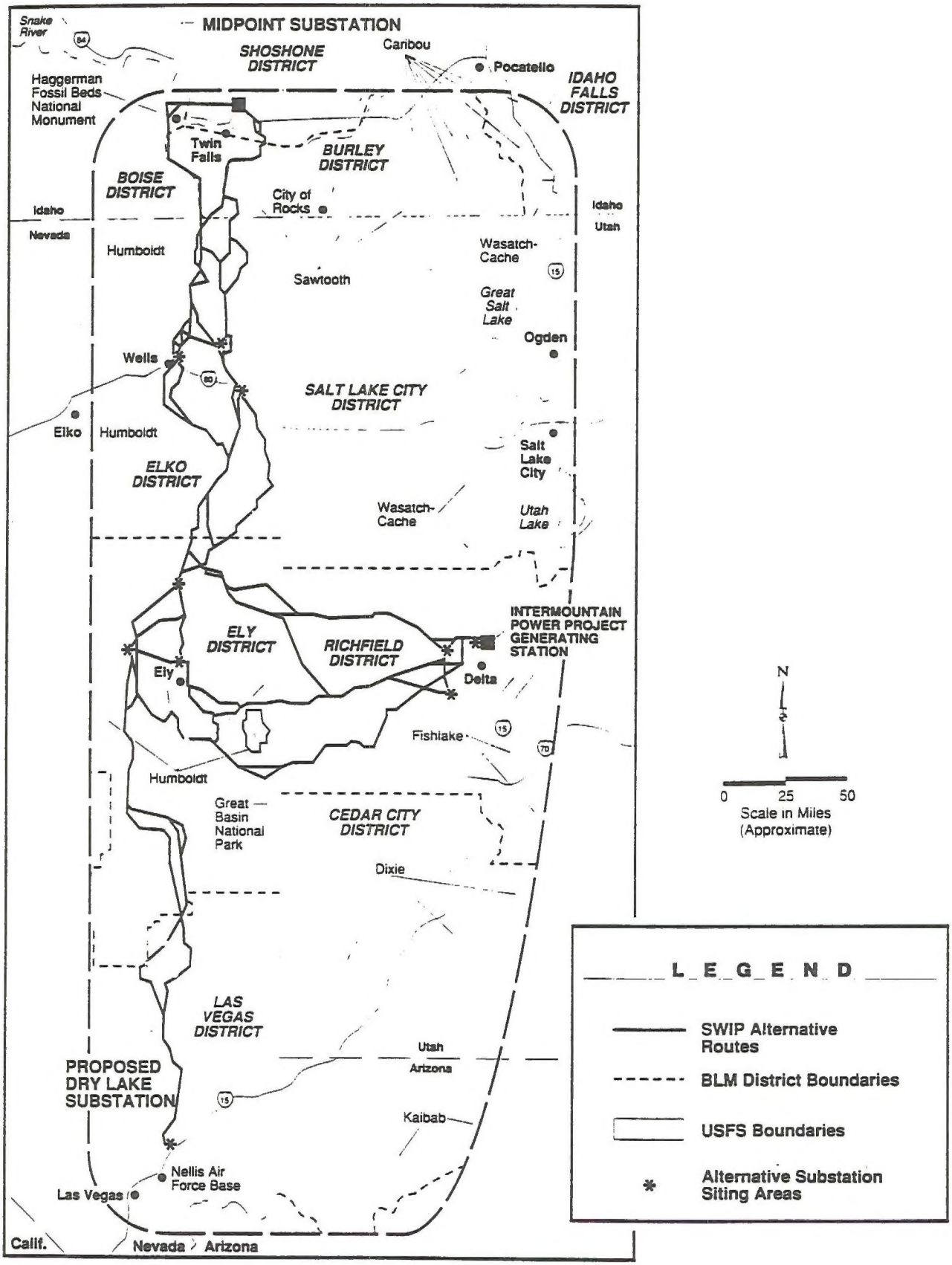
Ely, Nevada
Wednesday, February 13, 1991
7:00pm - 9:00pm
Bristlecone Convention Center
150 6th Street

Delta, Utah
Thursday, February 14, 1991
7:00pm - 9:00pm
City Council Chambers
76 N. 200 West

Las Vegas, Nevada
Wednesday, February 20, 1991
7:00pm - 9:00pm
BLM District Office
4765 Vegas Drive

Caliente, Nevada
Thursday, February 21, 1991
7:00pm - 9:00pm
Resource Area Office
Highway 94

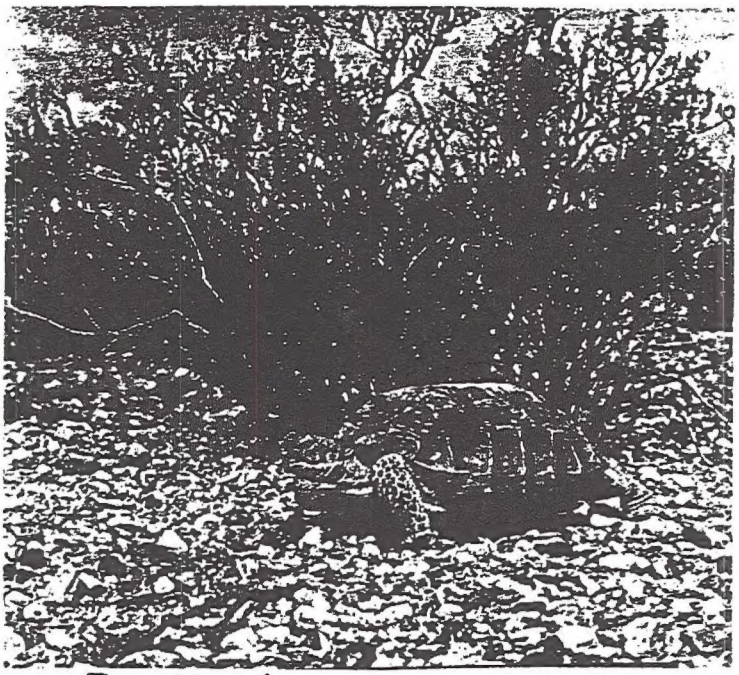
Information from these workshops will be incorporated into the Environmental Impact Statement/Plan Amendment (EIS/PA) for SWIP. Please plan on attending the workshop in your area.


MIDPOINT SUBSTATION
Snake River
84
SHOSHONE DISTRICT
Caribou
Pocatello
IDAHO FALLS DISTRICT
Haggerman Fossil Beds National Monument
Twin Falls
BURLEY DISTRICT
BOISE DISTRICT
City of Rocks
Idaho
Nevada
Idaho
Utah
Humboldt
Wasatch-Cache
15
Sawtooth
Great Salt Lake
Ogden
Wells
80
SALT LAKE CITY DISTRICT
Elko
Humboldt
Salt Lake City
ELKO DISTRICT
Wasatch-Cache
Utah Lake
INTERMOUNTAIN POWER PROJECT GENERATING STATION
ELY DISTRICT
RICHFIELD DISTRICT
Ely
Delta
15
70
Fishlake
Humboldt
Great Basin National Park
CEDAR CITY DISTRICT
Dixie
LAS VEGAS DISTRICT
Utah
Arizona
PROPOSED DRY LAKE SUBSTATION
15
Kaibab
Nellis Air Force Base
Las Vegas
Calif.
Nevada
Arizona
N
0
25
50
Scale in Miles (Approximate)
LEGEND
SWIP Alternative Routes
BLM District Boundaries
USFS Boundaries
Alternative Substation Siting Areas

RESULTS OF RESOURCE STUDIES

From the information collected during the resource inventory studies, potential positive and negative impacts to the existing natural, human, and cultural resources were assessed. Potential impacts on the following resources are of particular concern :

- **federally listed threatened and endangered species, including desert tortoise**
- **sage grouse and other sensitive species**
- **pronghorn antelope and other sensitive habitats**
- **wetland and riparian areas**
- **grazing and agricultural land**
- **views from residences, scenic highways, and other sensitive viewpoints**
- **historical and cultural sites, including Minidoka Relocation Center and Bristol Well**
- **Hagerman Fossil Beds National Monument, Great Basin National Park, and other recreation areas**
- **military operating areas**



Desert tortoise near a creosote bush in southern Nevada

Following the completion of the resource inventory studies and the assessment of potential impacts, methods for reducing the potential adverse impacts were developed. These measures are called mitigation techniques and include such options as avoiding sensitive areas, limiting construction of access roads, and scheduling construction around sensitive wildlife periods.

PLANNING PROCESS

In accordance with the National Environmental Policy Act of 1969, an EIS/PA is being prepared for SWIP. The Bureau of Land Management (BLM) is the lead federal agency overseeing the EIS/PA process. The Humboldt National Forest and the Great Basin National Park in Nevada, and the Bureau of Reclamation in Idaho are cooperating federal agencies. The EIS/PA is being prepared under BLM's direction by the environmental and engineering consulting firm of Dames & Moore.

During the SWIP scoping phase, alternative routing corridors were selected for detailed study. Next, the resource inventory studies and impact assessment took place. Throughout this project, public and agency comments have been received through public scoping meetings, steering committee meetings, response sheets, letters, telephone conversations, and personal contacts.

Following the release of the draft EIS/PA, there will be a public review period, and formal public meetings will be conducted by the BLM. At the conclusion of the EIS/PA process, the alternative will be selected with consideration for environmental, technical, public, and agency concerns. The selected alternative will be announced in a Record of Decision notice.

Details of these topics will be discussed at the public planning workshops and will also be presented in the EIS/PA.

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INFORMATION CONTACTS

To obtain public comments on SWIP, a response sheet has been enclosed with this update. Please take a few minutes to share your comments and questions by completing and returning the form. As the project progresses, additional updates will be distributed. If you have further project-related questions, or would like additional information on SWIP, feel free to contact the following project personnel:

Karl Simonson
BLM/Burley District Office
BLM Project Manager
Route 3, Box 1
Burley, Idaho 83318
(208) 678-5514

Jim Jensen
Dames & Moore
Environmental Studies Project Manager
P.O. Box 1601
Boise, Idaho 83701
(208) 344-6140

Jim Jensen
Dames & Moore
Environmental Studies Project Manager
P.O. Box 1601
Boise, ID 83701

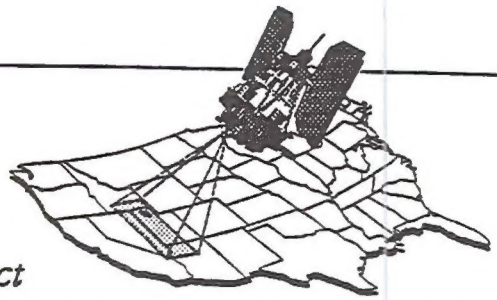
PROJECT UPDATE

A Publication for the Southwest Intertie Project

December 1990

RESPONSE SHEET

A Publication for the Southwest Intertie Project



December 1990

We'd like to hear your comments on SWIP. Please take a few minutes to answer the following questions and then return this sheet.

1. Would you like to remain on our mailing list and receive future project publications?
   ____ yes ____ no

2. Please list your current address and any additional names/addresses you feel should be included on our mailing list.

   Your name _____
   Address _____
   City/State _____
   Zip Code _____

   Name _____
   Address _____
   City/State _____
   Zip Code _____

3. Would you like to receive copies of the draft and/or final Environmental Impact Statement/Plan Amendment? _____ yes _____ no If yes, please indicate the document(s) you'd like to receive.

   _____
   _____

4. Would you like to receive other information on SWIP? If so, please describe.

   _____
   _____

5. Please comment on transmission line routing concerns you have regarding the extended SWIP study area and recently developed alternative routes.

   _____
   _____
   _____

6. Please comment on any other aspect of this project. _____
   _____
   _____
   _____

PLEASE FOLD THIS PRE-ADDRESSED RESPONSE FORM IN HALF, AFFIX A 25¢ STAMP, AND TAPE BEFORE MAILING

Thank you for your comments.

FROM: _____

_____

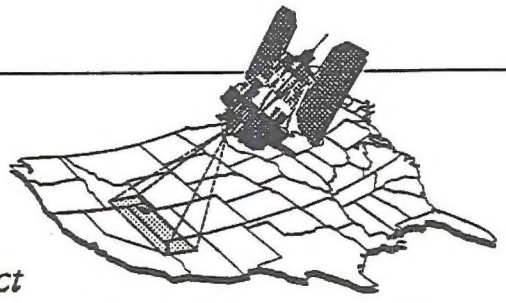
_____

Affix
25¢
Stamp

TO: **Jim Jensen**
Dames & Moore
Environmental Studies Project Manager
P.O. Box 1601
Boise, Idaho 83701

RESPONSE SHEET

A Publication for the Southwest Intertie Project



December 1990

Information obtained during the Public Meetings held for the SWIP study area has helped focus the study on key issues of concern to the public. Please plan on attending the Public Meeting and sharing your comments on these new alternative routes.

INFORMATION CONTACTS

A response sheet has been enclosed with this project update. Please give us your comments and questions by completing and returning the form. If you have project-related questions, would like copies of previous newsletters, or would like additional information on the SWIP, please contact either of the following project personnel:

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BLM Project Manager
Burley District Office
Route 3, Box 1
Burley, Idaho 83318
(208) 678-5514

Jim Jensen
Dames & Moore Project Manager
P.O. Box 1601
Boise, Idaho 83701
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PROJECT UPDATE

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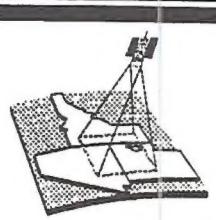
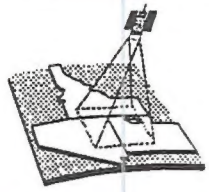


PROJECT UPDATE

A Publication for the Southwest Intertie Project



November 1991

This update explains an additional transmission line routing alternative to be evaluated in the Environmental Impact Statement (EIS) and Plan Amendment (PA) for the Southwest Intertie Project (SWIP). The other routing alternatives remain the same as those described in Newsletter #1 distributed in July 1989 and subsequent Project Updates.

ADDITIONAL ROUTING ALTERNATIVES DEVELOPED

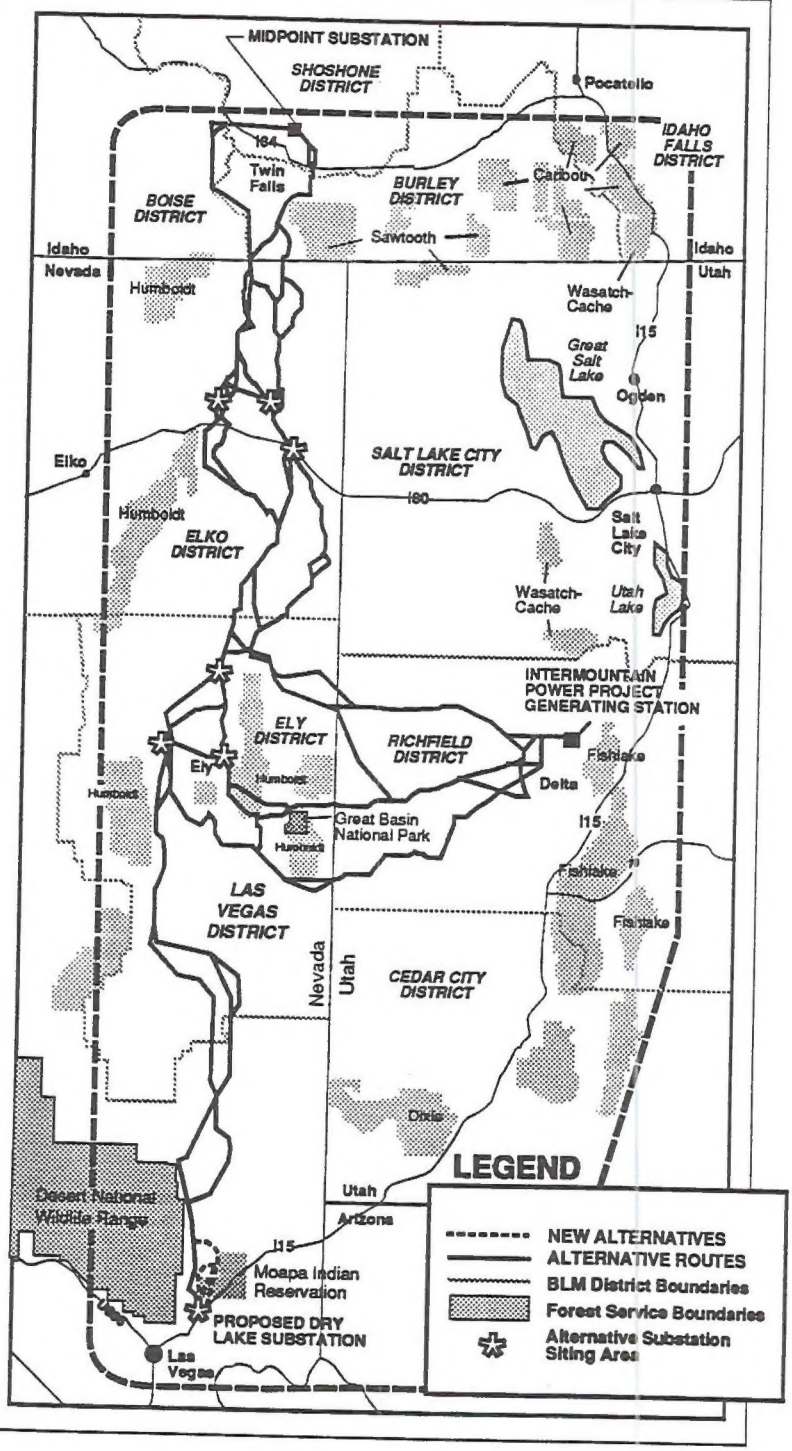
In February 1991 the Las Vegas District of the Bureau of Land Management (BLM) requested that additional routing alternatives outside of Arrow Canyon be evaluated because of their ongoing Resource Management Plan for the Stateline Resource Area and their participation in Clark County's Habitat Conservation Plan for desert tortoise.

These new alternatives are near the lower end of the SWIP Study Area map, illustrated as dashed lines. The new alternative routes pass through the Arrow Canyon Range and the Moapa Indian Reservation to join a major utility corridor that passes through Dry Lake Valley. The Moapa Band of the Paiute will participate in the study of alternatives that cross reservation lands.

Public Information Meeting Planned

To hear your views on these alternative routes and to discuss the overall scope of the SWIP, a public information meeting will be held at the following location and time:

Moapa, Nevada
Tuesday, December 17th
7:00 to 9:00 p.m.
Tribal Hall of the
Moapa Band of the Paiute



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PROJECT UPDATE

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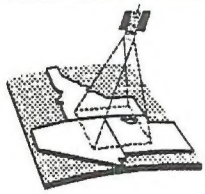

RESPONSE SHEET

A Publication for the Southwest Intertie Project

November 1991

We'd like to hear your comments on SWIP. Please take a few minutes to answer the following questions and then return this sheet.

1. Would you like to remain on our mailing list and receive future project publications?
   ____ yes ____ no

2. Please list your current address and any additional names/addresses you feel should be included on our mailing list.

   Your name _____
   Address _____
   City/State _____
   Zip Code _____

   Name _____
   Address _____
   City/State _____
   Zip Code _____

3. Would you like to receive copies of the draft and/or final Environmental Impact Statement/Plan Amendment? _____ yes _____ no If yes, please indicate the document(s) you'd like to receive.
   _____
   _____

4. Would you like to receive other information on SWIP? If so, please describe.
   _____
   _____

5. Please comment on transmission line routing concerns you have regarding the extended SWIP study area and recently developed alternative routes.
   _____
   _____
   _____

6. Please comment on any other aspect of this project. _____
   _____
   _____
   _____

PLEASE FOLD THIS PRE-ADDRESSED RESPONSE FORM IN HALF, AFFIX A 29¢ STAMP, AND TAPE BEFORE MAILING

Thank you for your comments.

FROM: _____

_____

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Affix
29¢
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Dames & Moore
Environmental Studies Project Manager
P.O. Box 1601
Boise, Idaho 83701

RESPONSE SHEET

A Publication for the Southwest Intertie Project

November 1991

PROJECT UPDATE

A Publication for the Southwest Intertie Project

May 1992

DRAFT ENVIRONMENTAL IMPACT STATEMENT/DRAFT PLAN AMENDMENT IS RELEASED

On June 2, 1992 the Draft Environmental Impact Statement/Draft Plan Amendment (DEIS/DPA) for the proposed Southwest Intertie Project 500kV transmission line will be released to the Public for review and comment. The Environmentally, Agency, and Utility preferred routes for the Midpoint to Dry Lake transmission system and for the Ely to Delta crosstie transmission system are identified in this document.

Written comments on the DEIS/DPA must be received by the Bureau of Land Management (or postmarked) by September 18, 1992. The Final Environmental Impact Statement/Proposed Plan Amendment (FEIS/PPA) will be prepared following the public comment period.

Formal Public Meetings Planned

Comments regarding the accuracy or adequacy of the DEIS/DPA may be presented verbally at a formal public meeting. Six public meetings will be held at the following locations:

Twin Falls, Idaho
August 3, 1992
Weston Plaza
1350 Blue Lake Blvd. N.

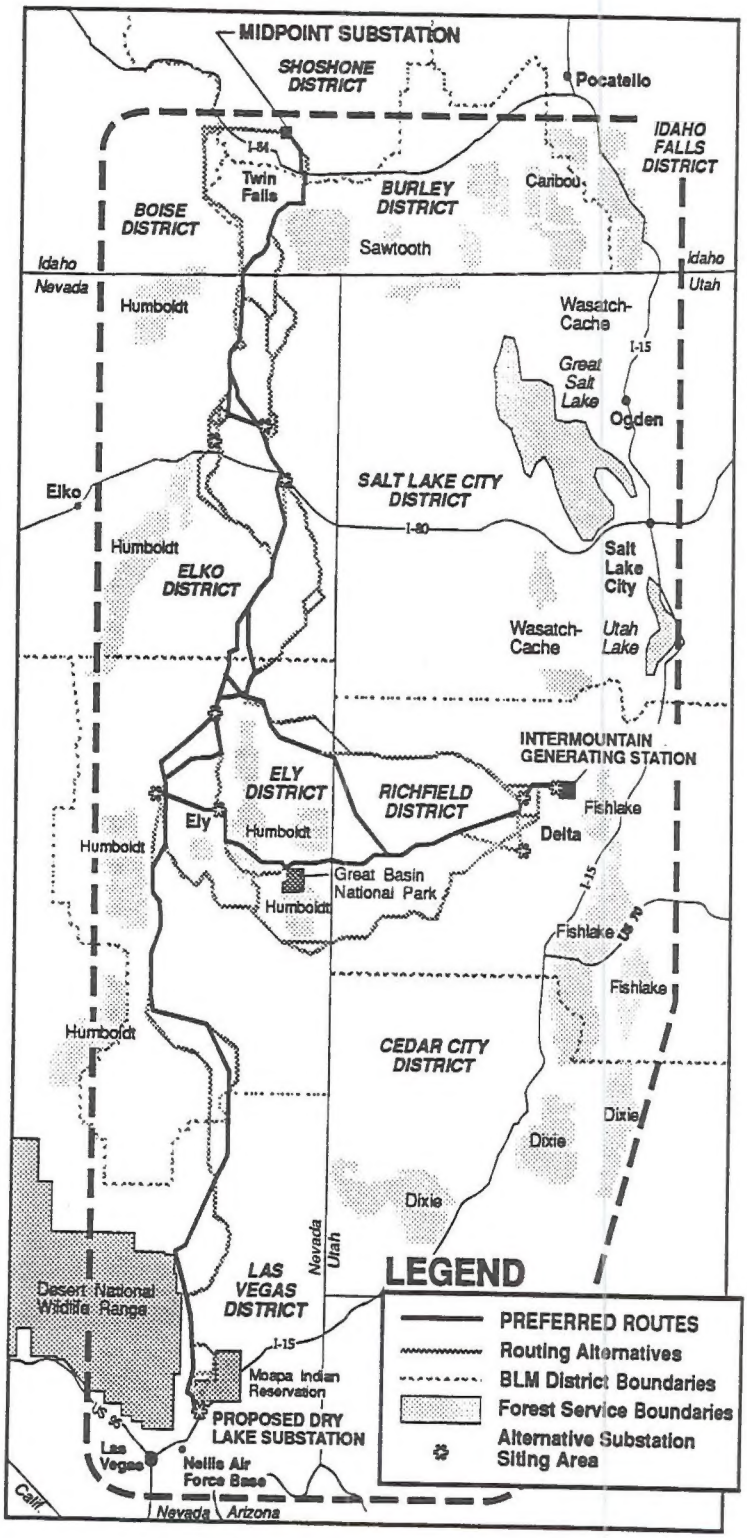
Ely, Nevada
August 5, 1992
Bristlecone Convention Center
150 6th Street

Caliente, Nevada
August 19, 1992
Soil Conservation Service Office

Wells, Nevada
August 4, 1992
Wells High School
115 Lake

Delta, Utah
August 6, 1992
City Council Chambers
76 N. 200 West

Las Vegas, Nevada
August 20, 1992
BLM District Office
4765 Vegas Drive



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(208) 344-6140

Jim Jensen
Dames & Moore Project Manager
P.O. Box 1601
Boise, Idaho 83701

PROJECT UPDATE

A Publication for the Southwest Intertie Project

May 1992

APPENDIX F

PUBLIC NOTICE AND MEDIA COVERAGE

Local Newspapers Contacted

TIMES NEWS
P.O. Box 548
Twin Falls, ID 83301

Idaho Press Tribune
P.O. Box 9399
Nampa, ID 83652

Idaho Statesman
P.O. Box 40
Boise, ID 83707

Salt Lake Tribune/Deseret News
157 Regent Street
Salt Lake City, UT 84111

Richfield Reaper
P.O. Box 640
Richfield, UT 84701

Box Elder Journal
P.O. Box 370
Brigham City, UT 84302

Millard County Chronicle Progress
P.O. Box 249
Delta, UT 84624

Elko Daily Free Press
P.O. Box 1330
Elko, NV 89801

Elko Independent
276 11th
Elko, NV 89801

Ely Daily Times
P.O. Box 1139
Ely, NV 89301

High Desert Advocate
P.O. Box 2470
Wendover, NV 89883

Reno Gazette Journal
P.O. Box 2200
Reno, NV 89520

Tremonton Leader
P.O. Box 127
Tremonton, UT 84337

Millard County Gazzette
P.O. Box 908
Fillmore, UT 84631

Press Release Mailing List

6/11
Lincoln County Record
P.O. Box 1001
Caliente, NV 89008
702-726-3333
(Weekly - Friday deadline
Published Thursdays)

6/18
The Las Vegas Sun - Daily
P.O. Box 4275
Las Vegas, NV 89127
702-385-3111
(7 days)

6/18
The Daily Spectrum
P.O. Box 1568
Cedar City, UT 84720
801-586-7646
(7 days)

6/18
The Las Vegas Review - Journal
1111 W. Bonanza Rd.
Las Vegas, NV 89106
702-383-0211
(7 days)

Press Release Mailing List (continued)

6/18
Ely Daily Times
P.O. Box 1139
Ely, NV 89307

6/18
The High Desert Advocate
P.O. Box 2470
Wendover, NV 89883
Fax 702-664-3311

Press Release

Idaho Power Company
P.O. Box 70
Boise, ID 83707
(208) 383-2461

Burley BLM District
Karl Simonson
(208) 678-5514

FOR IMMEDIATE RELEASE
March 17, 1989

Idaho Power Company and the Bureau of Land Management will hold a series of public meetings this month to discuss the utility's proposed Southwest Intertie transmission line project. The meetings will be held at Twin Falls, Monday, March 27 at the Holiday Inn, 1350 Blue Lake. Blvd; Wells, Nevada, Tuesday, March 28 at the Wells High School, 115 Lake Ave; Ely, Nevada, Wednesday, March 29 at the Bristlecone Convention Center, 150 6th Street and Delta, Utah, Thursday, March 30, City Council Chambers, 76 N. 200 West. All meetings will be held from 7 to 9 p.m.

Representatives from Idaho Power, the BLM and Dames & Moore, an engineering and environmental consulting firm, will present information and answer questions from the public.

The proposed 500,000-volt transmission line will extend from Idaho Power's Midpoint Substation near Shoshone, Idaho, south to a point near Ely, Nevada, then east toward the Intermountain Power Project generating station near Delta, Utah. The line will improve Idaho Power's access to energy markets and strengthen transmission system reliability in the western U.S.

Idaho Power and the BLM hired Dames & Moore to prepare an Environmental Impact Statement for the project. The firm is beginning its preliminary environmental studies along the proposed route.

Along with the studies, the public scoping process is being held to hear community views on the project. No decisions have been made regarding the line's route. Information gathered through the public process and environmental studies will help officials determine the feasibility of the proposed route and alternative corridors.

Press Release

Idaho Power Co.
P.O. Box 70
Boise, ID 83707
(208) 383-2461

Burley BLM District
Karl Simonson
(208) 678-5514

FOR IMMEDIATE RELEASE
June 20, 1990

BOISE, ID.--Idaho Power Company and the Bureau of Land Management will hold three public meetings in Nevada next week to discuss the utility's proposed Southwest Intertie transmission line project.

Each meeting will take place from 7:30 to 9:00 p.m. on:

—Tuesday, June 26, in Ely at the Bristlecone Convention Center, 150 6th St.

—Wednesday, June 27, in Caliente at the BLM Caliente Resource Area Office conference room, U.S. Highway 93.

—Thursday, June 28, in Las Vegas at the BLM District Office conference room, 4765 Vegas Dr.

Representatives from Idaho Power, the BLM and Dames & Moore, an engineering and environmental consulting firm, will present information and answer questions from the public.

The proposed 500,000-volt transmission line will extend from Idaho Power's Midpoint Substation near Shoshone, Idaho, south to a proposed substation site located approximately 25 miles northeast of Las Vegas. The line will improve the ability of Idaho Power and other Northwest utilities to sell surplus power in excess of regional needs, when it's available, to utilities in the Southwest and to import energy when regional power supplies are short. By providing for seasonal exchanges the project would make more efficient use of existing resources throughout the region. The project would also increase the reliability of

the interconnected transmission system in the western U.S.

The proposal is an expansion of the utility's earlier plan to build the line from Shoshone to the Ely area. Idaho Power expanded the project to improve its economic feasibility by locating closer to a marketplace with numerous electrical load and resource exchanges already in place.

Idaho Power and the BLM hired Dames & Moore to prepare an environmental impact statement for the project. The firm is conducting environmental studies along the proposed route.

Along with the studies, the public scoping process includes hearing community views on the project. No decisions have been made on the specifics of the line's route between Midpoint and Ely or between Ely and Delta, Utah. The proposed segment between Ely and Las Vegas would occupy a previously designated utility corridor. Information gathered through the public process and environmental studies will help officials determine the feasiblity of the proposed route and alternative corridors.

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Southwest Intertie Project:
technical report

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